Rural Sociology

VOLUME 25 SEPTEMBER 1960 NUMBER 3

The Functioning of Farmers' Characteristics in Relation to Contact with Media and Practice Adoption
C. Milton Coughenour

Reliability and Comparability of Two Instruments for Determining Reference Groups in Farm Practice Decisions
Gordon F. De Jong and *C. Milton Coughenour*

Locality Group Differences in the Adoption of New Farm Practices ..... *Anne Willem van den Ban*

The Occupational Achievement Process of Farm-Reared Youth in Urban-Industrial Society ..... *A. O. Haller*

An Analysis of the Organizational Role of the Teacher of Vocational Agriculture ..... *Selz C. Mayo*

Research Notes • Communications • Book Reviews
Bulletin Reviews • News Notes

Official journal of the Rural Sociological Society

RURAL SOCIOLOGY

Published Quarterly

BOARD OF EDITORS

J. Allan Beegle, *Editor*.....Michigan State University
EAST LANSING, MICHIGAN

Eugene A. Wilkening, *Associate Editor*.....University of Wisconsin
MADISON, WISCONSIN

Neal Gross, *Associate Editor*.....Harvard University
CAMBRIDGE, MASSACHUSETTS

Charles P. Loomis, *Associate Editor*.....Michigan State University
EAST LANSING, MICHIGAN

Samuel W. Blizzard, *Associate Editor*..Princeton Theological Seminary
PRINCETON, NEW JERSEY

Irwin T. Sanders, *Associate Editor*.....Boston University
BOSTON, MASSACHUSETTS

Philip Taietz, *Managing Editor*.....Cornell University
ITHACA, NEW YORK

Bert L. Ellenbogen, *Associate Managing Editor*....Cornell University
ITHACA, NEW YORK

DEPARTMENTAL EDITORS

Book Reviews: Walter C. McKain, Jr.....University of Connecticut
STORRS, CONNECTICUT

Bulletin Reviews: Louis J. Ducoff
Agricultural Marketing Service, USDA
WASHINGTON 25, D.C.

News Notes and Announcements: Marion T. Loftin
Mississippi State College
STATE COLLEGE, MISSISSIPPI

RURAL SOCIOLOGY is published by the Rural Sociological Society. The office of publication is located in the Department of Rural Sociology, New York State College of Agriculture, a unit of the State University of New York at Cornell University, Ithaca, New York. Months of publication are March, June, September, and December.

Members of the Rural Sociological Society are entitled to receive RURAL SOCIOLOGY. Dues for active members are $7.50 per year, of which $6.00 is for a year's subscription to the journal. Dues for student members and emeritus members are $4.00 a year, $3.75 of which is for the subscription. Applications for membership and payment of dues should be made to the Secretary-Treasurer, James H. Copp, Pennsylvania State University, University Park, Pennsylvania.

The subscription rate for nonmembers, libraries, and others is $7.00 a year, $2.00 a copy, in the United States and Canada; $7.50 a year and $2.15 a copy in all other countries, postage paid. Subscriptions should be sent to Managing Editor, 34 Warren Hall, Ithaca, New York. Four weeks' advance notice to the Managing Editor and the old address as well as the new are necessary for change of subscriber's address.

Manuscripts and business correspondence should be addressed to the Managing Editor. Books for review, bulletins for review, and news notes and announcements should be sent directly to the appropriate departmental editor, as indicated above.

Second-class postage paid at Ithaca, New York, and at additional mailing offices.

PRINTED BY THE W. F. HUMPHREY PRESS INC., GENEVA, NEW YORK

Copyright ©, 1960, by the Rural Sociological Society

Rural Sociology

VOLUME 25 SEPTEMBER 1960 NUMBER 3

CONTENTS

The Functioning of Farmers' Characteristics in Relation to Contact with Media and Practice Adoption. *C. Milton Coughenour* 283

Reliability and Comparability of Two Instruments for Determining Reference Groups in Farm Practice Decisions *Gordon F. De Jong* and *C. Milton Coughenour* 298

Locality Group Differences in the Adoption of New Farm Practices ..... *Anne Willem van den Ban* 308

The Occupational Achievement Process of Farm-Reared Youth in Urban-Industrial Society ..... *A. O. Haller* 321

An Analysis of the Organizational Role of the Teacher of Vocational Agriculture ..... *Selz C. Mayo* 334

Research Notes

A Note on Personality Variables in Diffusion Research.... *John Harp* 346

Obstacles to Change for the Low-Income Farmer.. *Frederick C. Fliegel* 347

Communications

Significance of Farm Adjustment Problems to Sociology *Donald E. Johnson* and *Denton E. Morrison* 352

Congruence *versus* Profitability: A False Dichotomy.... *Zvi Griliches* 354

Neighborhood Norms and the Adoption of Farm Practices *D. Sheppard* 356

Book Reviews ..... Edited by *Walter C. McKain, Jr.*

Black and Westcott: *Rural Planning in One County: Worcester County, Massachusetts* ..... Sloan R. Wayland 359

Bogue: *Patterns from the Sod* ..... S. C. Ratcliffe 360

Caillois: *Man and the Sacred* ..... Paul Honigsheim 360

Carrasco: *Land and Polity in Tibet* ..... Robert T. McMillan 361

Smith: *Fundamentals of Population Study* ..... Douglas G. Marshall 362

Wolff: *Georg Simmel, 1858–1918* ..... Walfred A. Anderson 362

Books Received 363

Bulletin Reviews ..... Edited by *Louis J. Ducoff*

Beyer: *Housing and Personal Values*..... Margaret I. Liston 365

Christiansen, Maitland, and Payne: *Industrialization and Rural Life in Two Utah Counties*..... H. Bruce Bylund 366

Harvey: *Statistics of Rural Schools. A U.S. Summary, 1955–56*

Gaumnitz: *Small Schools are Growing Larger. A Statistical Appraisal* Marion B. Smith 366

Hassinger and McNamara: *Family Health Practices among Open-Country People in a South Missouri County*..... Harold E. Smith 367

Nagi and Andrews: *Field Studies in Heart Disease*

Nagi: *Factors Related to Heart Disease among Ohio Farmers* Philip E. Enterline 368

Pal et al.: *Silliman University Community Development Program* Darcie Byrn 369

Straus and Estep: *Education for Technological Change among Wisconsin Farmers* ..... *E. Grant Youmans* 370

Other Publications Received..... 370

News Notes ..... Edited by *Marion T. Loftin* 373

Program for the 1960 Annual Meeting 377

Reprints of back issues of RURAL SOCIOLOGY may be obtained as follows: Volumes 1 through 20 from Johnson Reprint Corp., 111 Fifth Avenue, New York 3, New York.

Volumes 21 through the present issue from the Managing Editor, 333 Warren Hall, Cornell University, Ithaca, New York, at $10.00 per volume, $2.50 per copy in the United States and Canada; $10.60 per volume, $2.65 per copy in all other countries.

RURAL SOCIOLOGY is indexed in *Agricultural Index, Bibliography of Agriculture,* and the bulletin of the *Public Affairs Information Service.* Selected abstracts are carried regularly in *Sociological Abstracts, Psychological Abstracts, Current Sociology,* and other publications. RURAL SOCIOLOGY is available on microfilm, to regular subscribers, from University Microfilms, 313 N. First Street, Ann Arbor, Michigan.

C. MILTON COUGHENOUR

The Functioning of Farmers' Characteristics in Relation to Contact with Media and Practice Adoption*

The proposition that the adoption of improved practices is a function of contact with information sources is used to build an empirical model of practice adoption. The relationships of farmers' personal and social characteristics to this basic causal linkage are examined for 285 farm operators in Washington County, Kentucky. The model is used to provide a more general interpretation of findings of other studies.

The author is associate rural sociologist in the Kentucky Agricultural Experiment Station, University of Kentucky, Lexington.

IN 1950 farm operators in Washington County, Kentucky, were interviewed with respect to certain personal and social characteristics and farm practices used. Analysis of these data by C. Paul Marsh and A. Lee Coleman showed that twelve or more of sixteen farm practices surveyed were significantly associated with nine measures of farmers' personal and social characteristics.[1] Since many of these characteristics

*An earlier draft of this paper was presented at the meetings of the Rural Sociological Society, August 26–28, 1959. The investigation reported in this paper is in connection with a project of the Kentucky Agricultural Experiment Station and is published by permission of the director.

[1]C. Paul Marsh and A. Lee Coleman, "The Relation of Farmer Characteristics to the Adoption of Recommended Farm Practices," *Rural Sociology*, 20 (1955), 289–296. The personal and social characteristics significantly associated with adoption are: socioeconomic status, value of products sold, size of farm operation, education, experience of talking with an agricultural agency representative, reading of one or more farm bulletins, participation in the Farm Bureau, attendance at one or more

were intercorrelated, Marsh and Coleman[2] examined "the relation of three of them—education, socioeconomic status, and contact with agricultural agency representatives—to the adoption of each practice with each of the other two factors held constant (successively, not simultaneously)." The partial relationship of adoption to each of the three characteristics was found to be "in the same direction as in the simple cross-tabulations" although not nearly so clear-cut and consistent. These findings, however, were not related to an empirical theory of practice adoption. To present a conceptual framework for developing an empirical theory of practice adoption is one purpose of this paper. To examine the usefulness of the proposed model in guiding the analysis of data obtained in a second survey of farm operators in Washington County and in providing the basis for a more general explanation of the Marsh and Coleman findings is the second objective.

THEORETICAL AND METHODOLOGICAL CONSIDERATIONS

In the past decade much research on the adoption of practices has been made within the context of a socio-psychological approach. Wilkening's statement that acceptance of innovations may be viewed "as a function of the social relations and of the ideological system (ideas, values, and sentiments) of the farmer" has served as a guide in formulating research questions and explanatory models.[3] Recent studies by Copp[4] and Rogers[5] fall within this orientation despite the fact that the latter approaches the problem of developing conceptual variables and hypothesized relationships from the vantage point of situational analysis.[6] However, starting with the proposition that the adoption of practices is a consequence of communication, Emery and Oeser develop the most extensive multivariate analysis of practice adoption thus far available.[7] Their approach differs from that of researchers who have previously studied adoption as a function of com-

---

farm meetings sponsored by agricultural agencies, and participation in formal organizations.

[3]*Ibid.*, p. 294.

[4]The development of conceptualization has proceeded on two levels. One is the structure-functional in which adoption has been viewed as a function of status and role of communicators and adopters. The other is systematic conceptual variable theory in which adoption is viewed as a function of dynamic interrelationship of independent elements expressed in terms of variables. While the latter is the primary focus of attention here, at present only a variant of a combination of these two types of models is possible.

[5]James H. Copp, "Toward Generalization in Farm Practice Research," *Rural Sociology*, 23 (1958), 103–111.

[6]Everett M. Rogers, "A Conceptual Variable Analysis of Technological Change," *Rural Sociology*, 23 (1958), 136–145.

[7]Lowell J. Carr, *Situational Analysis* (New York: Harper, 1958).

[8]F. E. Emery and O. A. Oeser, *Information, Decision and Action* (New York: Cambridge University Press, 1958).

munication[8] primarily in the elevation of this proposition to a position of central importance in a systematic empirical theory and in the skillful use of recent developments in survey methodology.[9] In this approach attitudes and abilities of the farmer together with salient aspects of the economic and social situation within which the farmer-source relationship takes place are viewed as independent dynamic elements in a system of communication.[10] The relevant independent elements and their functional relationships to the paramount causal connection between source and adopter are determined by an analysis of empirical data.

In highly simplified form the principal linkage in the adoption model may be depicted as $B \rightarrow C$, in which B is contact with or exposure to an information source and C is the adoption or use of a practice. This expression may be used to represent a statement of relationship between variables such as: the greater the exposure to media the greater the adoption of practices.[11] The validity of this particular statement is supported by correlational analyses[12] and by daily experience.

Primary interest in this paper is in the ways in which additional variables—attitudes, personal abilities, situational factors, and the like—affect the relation between contact or exposure and adoption. In general, these variables may be viewed as functioning in relation to the basic contact with source—adoption of practice relationship in two ways. The first (Type I) is: $A \rightarrow B \rightarrow C$ in which an element or factor A leads to contact with a source B and subsequently to the adoption of practice C. The second (Type II) is: $B \rightarrow C$ in which an element A serves as a mediating variable or condition affecting the translation of information re-

$$\uparrow$$
$$A$$

[8]Cf. *Sociological Research on the Diffusion and Adoption of New Farm Practices.* Report of the Subcommittee on the Diffusion and Adoption of Farm Practices, the Rural Sociological Society (Kentucky Agr. Expt. Sta.; Lexington, 1952).

[9]Of principal significance here are: Fritz Heider, "Attitudes and Cognitive Organization," *Journal of Psychology,* 21 (1946), 107–112; Theodore M. Newcomb, "An Approach to a Study of Communicative Acts," *Psychological Review,* 60 (1953), 393–404; Dorwin Cartwright and F. Harary, "Structural Balance: A Generalization of Heider's Theory," *Psychological Review,* 63 (1956), 277–293; and, more recently, Theodore M. Newcomb, "The Study of Consensus," esp. pp. 281–283, in Robert K. Merton, Leonard Broom, and Leonard S. Cottrell, Jr., eds., *Sociology Today* (New York: Basic Books, 1959).

[10]This formulation is close to, but more general than, that stated by W. Schramm in Chapter 1 of *The Process and Effects of Mass Communication* (Urbana: University of Illinois Press, 1954).

[11]This is only one of several statements that might be made connecting sources and adoption.

[12]Among studies employing multivariate types of analyses, Frederick C. Fliegel, "A Multiple Correlation Analysis of Factors Associated with the Adoption of Farm Practices," *Rural Sociology,* 21 (1956), 284–292, and Marsh and Coleman, *op. cit.,* provide the most clear-cut evidence in support of this relationship.

ceived from *B* into actual use on the farm (*C*). While ordinarily the relationship $B \rightarrow C$ is assumed to be direct, the relations between the several *A*'s and the foregoing relationship may be either direct ($\rightarrow$) or inverse ($\nrightarrow$).

In 1950 and 1955 all farm operators in twelve neighborhoods in Washington County, Kentucky, were interviewed for the purpose of studying the factors relating to practice adoption. These neighborhoods were selected to represent the range of general corn, tobacco, and livestock farming in the county. Of the 451 farm operators interviewed in both surveys, 285 were interviewed twice. Since in most relevant respects the latter are representative of the total,[13] those interviewed twice are selected for more detailed analysis in this paper.

In both surveys farm operators were asked whether or not they had used each of the following media as a farm information source: newspapers, farm magazines, radio, farm meetings, representatives of agricultural agencies, county agent's circular letters, farm bulletins, commercial salesmen and dealers, and friends and neighbors. The development of indexes of the farm operator's contact or exposure to media was based on the following considerations. First, research indicates that these media are not equally influential in the adoption of improved practices.[14] Second, the media have been shown to perform different functions in the adoption process.[15] And third, examination of the interassociations among the media suggests that they reflect more than one dimension of contact. Two indexes—an index of contact with printed media (*I–pm*)[16] and an index of contact with institutionalized media (*I–im*)[17]—were computed for each operator.

In view of the research on the differential functions of media in

[13]For an analysis of factors on which these groups of farmers differ see Gordon De Jong and C. Milton Coughenour, "What's Happening to Kentucky Rural Neighborhoods?," *Kentucky Farm and Home Science*, 4 (Summer, 1958), pp. 3, 7, and 8.

[14]Marsh and Coleman, *op. cit.*; Herbert F. Lionberger, *Information Seeking Habits and Characteristics of Farm Operators* (Missouri Agr. Expt. Sta. Res. Bull. 581; Columbia, 1955); E. A. Wilkening, "Sources of Information for Improved Farm Practices," *Rural Sociology*, 15 (1950), 19–30. See also other relevant sources listed in *Bibliography of Research: Social Factors in the Adoption of Farm Practices*, Second Edition (Ames, Iowa: North Central Rural Sociology Committee, 1959).

[15]See E. A. Wilkening, "Roles of Communicating Agents in Technological Change," *Social Forces*, XXXIV (1956), 361–367; James H. Copp, Maurice L. Sill, and Emory J. Brown, "The Function of Information Sources in the Farm Practice Adoption Process," *Rural Sociology*, 23 (1958), 146–157.

[16]For each of the 285 farmers interviewed twice, *I–pm* is the number of the following media which each farmer reported using on both surveys: farm bulletins (42%), newspapers (58%), and farm magazines (70%). Coefficients of association (*Q*) among these media are .69 or higher.

[17]For farmers interviewed twice, *I–im* is the number of the following media which each farmer reported using on both surveys: farm meetings (27%), agricultural agency representatives (45%), and county agent's letters (72%). Coefficients of association (*Q*) among these media are .83 or higher.

the adoption process, one would expect that an objective measure of practices adopted, such as an improved practice score (*IPS*),[18] would be related positively to *I–pm* primarily because of the influence of printed media in the early stages of the process. *IPS* and *I–im* would be positively associated because of the influence of institutionalized sources at later stages in the adoption process. Stated another way, one would expect to find a tendency for contact with institutionalized media to serve as a mediating variable between contact with printed media and improved practice score. It is advantageous to anticipate the findings at this point and to indicate that this hypothesis is supported in this instance. However, the findings indicate further that contact with printed media probably retains an independent influence on adoption score. Thus the simple adoption model ($B \rightarrow C$) must be supplanted by a more complex one:

$$\left.\begin{array}{l} I\text{–}im \Longrightarrow \\ \uparrow \\ I\text{–}pm \rightarrow \end{array}\right\} IPS$$

In the above figure the principal causal linkage (indicated by the double line) is between contact with institutionalized media and practice adoption, with part of the influence of contact with printed media leading to further contact with institutionalized media and part directly influencing adoption scores.

Characteristics of farmers that Marsh and Coleman found to be strongly related to adoption in 1950 and for which 1955 survey data are available are attitude toward scientific farming,[19] age, education,

[18]The improved practice score (*IPS*) for a farm operator is the per cent of the practices applying to his farm that he had tried. The base list included 21 practices.

[19]Although items reflecting farmers' attitudes were not included in the 1950 survey, analysis indicated the probable importance of attitudinal or normative factors in practice adoption. C. Paul Marsh and A. Lee Coleman, "The Relation of Neighborhood of Residence to Adoption of Recommended Farm Practices," *Rural Sociology*, 19 (1954), 385–389; C. Paul Marsh and A. Lee Coleman, "Group Influences and Agricultural Innovations: Some Tentative Findings and Hypotheses," *American Journal of Sociology*, 61 (1956), 588–594; and nine items designed to obtain relevant information were included in the 1955 schedule. Four of these items, which are highly interassociated and differ as to marginal frequency, are used to construct an index of the farmer's attitude toward scientific farming. The four statements to which agreement or disagreement was indicated are:

(a) Most farmers in this neighborhood feel that the old established ways of farming are in general, the best ways.

(b) Most farmers around here won't try anything new until they have seen it tried on someone else's farm.

(c) Farmers around here feel that most new things in farming cost too much to try them.

(d) Farmers around here really try hard to keep up with new developments in farming.

The index of attitude toward scientific farming score for each farmer is the unweighted sum of the farmer's responses in the favorable-to-scientific-farming direction.

socioeconomic status (Sewell Scale scores), value of products, and participation in formal organizations (Chapin Scale scores). These are objective measures, however crude, of abilities and attitudes of the farmer as a person and of social and economic conditions in the situation in which contact with a source of farm information is made and adoption takes place. Several of the measures—socioeconomic status, education, and social participation—overlap, a point that receives further attention later.

The first way in which these measures may function is analogous to the Type I model—$A \rightarrow B \rightarrow C$—outlined above. To illustrate: one might expect that the more favorable the farmer's attitude toward scientific farming (A), the more extensive would be his contacts with institutionalized media (B) and, subsequently, the more improved practices would he adopt (C). At the same time, once contact with an institutionalized source has been made and information concerning an improved practice received, the decision to try the practice must be made in the face of an unknown amount of risk. In such cases, the decision to try a practice may depend to some extent on the farmer's favorableness to improved practices in general—that is, the belief that they will provide positive benefits in the long run. In this case, the farmer's attitude toward scientific farming may serve as a condition which, depending on the degree of favorableness, increases or decreases the probability that the information received will be translated into practice on the farm. The argument in this case is analogous to the Type II model presented previously:

$$\begin{array}{c} I\text{–}im \rightarrow IPS \\ \uparrow \\ \text{attitude} \end{array}$$

Exploration of the functional interrelationships among the several variables is based largely on recent methodological advances in analyzing the partial associations among attributes.[20] In brief, it can be shown that a Type I hypothesis—$A \rightarrow B \rightarrow C$—is supported to the extent that the partial associations of A and C where B is the control variable are all smaller than the simple association between A and C.[21] Moreover, the Type II hypothesis—$B \rightarrow C$—is supported to the extent that differences

$$\begin{array}{c} \uparrow \\ A \end{array}$$

[20]Patricia Kendall and Paul F. Lazarsfeld, "Problems of Survey Analysis," in Merton and Lazarsfeld, eds., *Continuities in Social Research* (Glencoe, Ill.: Free Press, 1950); Paul F. Lazarsfeld, "Problems in Methodology," in R. K. Merton, Leonard Broom, and Leonard Cottrell, Jr., eds., *op. cit.*; Herbert Hyman, *Survey Design and Analysis* (Glencoe, Ill.: Free Press, 1955), Chapter VII; Herbert Simon, "Spurious Correlation: a Causal Interpretation," *Journal of American Statistical Association*, 49 (1954), 467–479; and Herman Wold, "Causal Inference from Observational Data. A Review of Ends and Means," *Journal of Royal Statistical Society*, Series A (General), 119 (1956), 228–260.

[21]This is analogous to the "interpretation" subtype of the "M type" of elaboration in Hyman, *op. cit.*, p. 287.

are found among the partial associations of *B* and *C* when stratified by factor *A*.[22] Interpretation of these partial associations is further contingent upon three assumptions: (1) that the basic causal linkage is from contact with media and the acquisition of farm information to adoption or practice by the farmer; (2) that the farmer's personal and social characteristics associated with adoption precede contact with media and thus function as conditions determining contact with agencies, or function as mediating factors in the causal chain between contact and adoption, or both; and (3) that with reference to practices included in the adoption index farmer's personal and social characteristics precede contact with media and are largely independent of the adoption of these individual practices.

FINDINGS

Adoption score (*IPS*) is strongly associated with both *I–pm* ($\gamma = .69$)[23] and *I–im* ($\gamma = .80$). *I–pm* and *I–im* also are very closely associated ($\gamma = .84$) Two bases for the close association between *I–pm* and *I–im* may be noted. First, association may be due to the common association of each with an antecedent factor (or factors); that is, to some extent the association may be spurious. Antecedent factors may be either personality or situational factors which dispose the farmer to contact both types of sources. Evidence indicating that situational factors or conditions are one source of the association between *I–pm* and *I–im* is presented later in this paper. As noted earlier, a second plausible interpretation is that *I–im* in some sense stands in a closer relationship to *IPS*. This is so under the hypothesis that printed media function primarily in the "awareness" and "interest" building stages of adoption and institutionalized media in the "acceptance" and "trial" stages. This suggests the hypothesis that *I–pm*→*I–im*→ *IPS*, which is the Type I mode of elaboration noted above. The hypothesis is supported to the extent that the partial associations of *I–pm* and *IPS*, for different levels of *I–im*, are all smaller than the simple association of *I–pm* and *IPS*. The partial gammas in this instance are 0.56, 0.35, and 0.52 as compared to the pertinent simple association (γ), 0.69, thus supporting the hypothesis.[24] However, the size of the partials suggests that much of the association between *IPS* and *I–pm* is not interpreted by *I–im*. This leads to the conclusion that *I–pm* probably retains a direct influence on *IPS*.

[22] This is analogous to the "P type" of elaboration, *ibid.*

[23] The choice of gamma (γ) as a measure of association was dictated by the following considerations: (1) several of the scales provided only ordinal measurement which suggested the use of a nonparametric measure of association, since the 285 farm operators do not comprise a sample from any known universe; (2) use of the more familiar sampling statistic, chi-square, raised the risk of misinterpretation; and (3) the coefficient of contingency which is based on chi-square is difficult to interpret. These difficulties are avoided by using gamma. See note to Table 1.

[24] Interestingly the alternative hypothesis that *I–im* → *I–pm* → *IPS* is not supported. The pertinent partial gammas are .29, .77, .98, which are not all smaller than the relevant simple association between *I–im* and *IPS* ($\gamma = .80$). This finding further strengthens the general hypothesis of the differential functioning of media in the adoption process.

Because of the difficulty of controlling more than one variable at a time in cross-classification measures of association, the relation of each personal and social characteristic to *I–pm* and *IPS* is considered separately from the relation of each characteristic to *I–im* and *IPS*. Table 1 presents the partial associations for testing hypotheses of the following type: characteristic of farmer→*I–pm*→*IPS*. These data indicate that socioeconomic status, social participation, and the value of products in some sense index conditions that dispose farmers to make contact with printed media and, subsequently, to adopt farm practices. This is not the case for attitude toward scientific farming, age, and education.

In Table 2 the partial associations are shown for testing hypotheses of the following type: characteristic of farmer→*I–im*→*IPS*. From these data one concludes that the farmer's attitude toward scientific farming, education, socioeconomic status, social participation, and value of products comprise conditions that dispose him to make contact with institutionalized media and, subsequently, to try the improved practices. In this instance, the farmer's age appears to have no influence.

The next question is: to what extent does each personal or social characteristic affect the process of translating ideas into actual practice on the farm? The partial associations for testing the hypothesis that *I–pm*→*IPS* depends on the particular conditions of a characteristic are shown in Table 3. Of these six characteristics of farmers, the ones which appear to influence the relationship of *I–pm* and *IPS* are education and participation in formal organizations.

Partial associations for testing the hypothesis that *I–im*→*IPS* depends on the particular conditions of a characteristic are shown in Table 4. The data indicate that the farmer's attitude toward scientific farming, age, and socioeconomic status are important and that the value of products produced is quite important. Neither education nor social participation in this instance appears to set conditions that affect the translation of ideas into practice.

As the data in Tables 1 and 2 indicate, measures of socioeconomic status, participation in formal organizations, and value of products appear to index conditions in the environment which dispose the farmer to use both printed and institutionalized media. In part this accounts for the close association between *I–pm* and *I–im* that was mentioned earlier.[25]

A question deserving further attention is: to what extent are the conditions indexed by socioeconomic scores, social participation scores,

[25]The extent to which socioeconomic scores explain the association between *I–pm* and *I–im* can be assessed by examining the partial associations between *I–pm* and *I–im* when stratified by socioeconomic scores. In this instance the relevant partial gammas by higher and lower levels of socioeconomic status are .75 and .71, respectively. Significantly, both are smaller than the simple association between *I–pm* and *I–im*, .84.

Table 1. Association between farmers' improved practice scores (*IPS*) and their personal and social characteristics, Washington County, Kentucky, 1955*

Characteristic and hypothesis	Simple association: characteristic and *IPS*	Partial association: characteristic and *IPS* controlled by contact with printed media (*I–pm*) — Index scores			Evaluation of hypothesis
		1	2–3	4	
Personal:					
Attitude toward scientific farming: attitude→ *I–pm*→ *IPS*	.44	.49	.27	.49	Reject
Age: Age↛ *I–pm*→ *IPS*	−.39	−.14	−.46	−.28	Reject
Education: education→ *I–pm*→ *IPS*	.62	.46	.32	.68	Reject
Social and economic:					
Socioeconomic status score: *SES*→ *I–pm*→ *IPS*	.80	.56	.68	.59	Accept
Formal social participation score: *SP*→ *I–pm*→ *IPS*	.56	.53	.35	.43	Accept
Value of products: value→ *I–pm*→ *IPS*	.78	.72	.65	.75	Accept

*The measure of association used is gamma (γ) for which the limits are −1 and +1. The coefficient gamma may be interpreted as follows: if any two farmers are drawn at random from a sample population and rank ordered on each of two attributes, a positive gamma indicates how much more probable it is for the farmers to be ranked in the same than in different orders. A negative gamma indicates how much more probable it is for the two rank orders to be different rather than the same. For technical details see Leo Goodman and William H. Kruskal, "Measures of Association for Cross-Classifications," *Journal of the American Statistical Association*, 49 (1954), 732–764. Except for attitude toward scientific farming and improved practice score, all gammas were computed from 2-by-3 tables. The coefficient for attitude and *IPS* was computed from a 3-by-3 table.

Table 2. Association between farmers' improved practice scores (*IPS*) and their personal and social characteristics, Washington County, Kentucky, 1955*

Characteristic and hypothesis	Simple association: characteristic and *IPS*	Partial association: characteristic and *IPS* controlled by contact with institutionalized media			Evaluation of hypothesis
		Index scores			
		1	2–3	4	
Personal:					
Attitude toward scientific farming: attitude→*I–im*→ *IPS*	.44	.00	.41	−.09	Accept
Age: age↛ *I–im*→ *IPS*	−.39	−.04	−.30	−.73	Reject
Education: education→ *I–im*→ *IPS*	.62	.58	.27	.43	Accept
Social and economic:					
Socioeconomic status score: *SES*→ *I–im*→ *IPS*	.80	.68	.64	.64	Accept
Formal social participation score: *SP*→ *I–im*→ *IPS*	.56	.46	.31	.22	Accept
Value of products: value→ *I–im*→ *IPS*	.78	.54	.72	.42	Accept

*See note to Table 1 for interpretation of the measure of association used.

Table 3. Partial associations (gamma) between index of contact with printed media (*I–pm*) and improved practice scores (*IPS*), controlled by farmers' personal and social characteristics, Washington County, Kentucky, 1955*

Characteristic†	Partial association: *I–pm* and *IPS*	Importance of‡ characteristic as a condition
Personal		
Attitude toward scientific farming:		
Very favorable	.67	not important
Fairly favorable	.60	
Not so favorable	.71	
Age:		
50 or more	.70	not important
Less than 50	.65	
Education:		
8 or more	.64	important
Less than 8	.56	
Social and economic		
Socioeconomic status score:		
High	.48	not important
Low	.43	
Formal social participation score:		
High	.58	important
Low	.67	
Value of products:		
$2500 or more	.56	not important
Less than $2500	.60	

*See Note to Table 1 for interpretation of coefficient of association used.

†General hypothesis: characteristic is a condition for the association between *I-pm* and *IPS:* B→C.

A ↑

‡Since tests of significance of differences between gammas are not available, importance of differences is determined arbitrarily.

and value of products the same or different? As expected, interassociations among the three measures (Table 5) are high. (Of course, one expects socioeconomic status and social participation scores to be related to some extent, owing to the inclusion of social participation items in the Sewell Socioeconomic Status Scale.) Nevertheless, on con-

Table 4. Partial associations (gamma) between index of contact with institutionalized media (*I–im*) and improved practice scores (*IPS*), controlled by Farmers' personal and social characteristics, Washington County, Kentucky, 1955*

Characteristic†	Partial association: *I–im* and *IPS*	Importance of characteristic as a condition‡
Personal		
Attitude toward scientific farming:		
Very favorable	.74	important
Fairly favorable	.81	
Not so favorable	.68	
Age:		
50 or more	.70	important
Less than 50	.74	
Education:		
8 or more	.78	not important
Less than 8	.74	
Social and economic		
Socioeconomic status score:		
High	.76	important
Low	.59	
Formal social participation score:		
High	.76	not important
Low	.80	
Value of products:		
$2500 or more	.75	very important
Less than $2500	.48	

*See note to Table 1 for interpretation of coefficient of association used.

†General hypothesis: characteristic is a condition for the association between *I-im* and *IPS:* B→C.
↑
A

‡Since tests of significance of differences between gammas are not available, importance of differences is determined arbitrarily.

ceptual and empirical[26] grounds one is led to posit two somewhat different locuses in which the forces to contact media are generated. One locus is in the context of social relationships and the other in the economic aspects of the farm enterprise and way of life.

Interassociations between age and attitude and between each of these

[26]In a factorial analysis of the Sewell Scale items two dimensions, level of living and religious participation, have been identified. Cf. John C. Belcher and Emmit F. Sharp, *A Short Scale For Measuring Farm Family Level of Living: A Modification of Sewell's Socio-Economic Scale* (Oklahoma Agr. Expt. Sta. Tech. Bull. T–46; Stillwater, 1952), pp. 15–16.

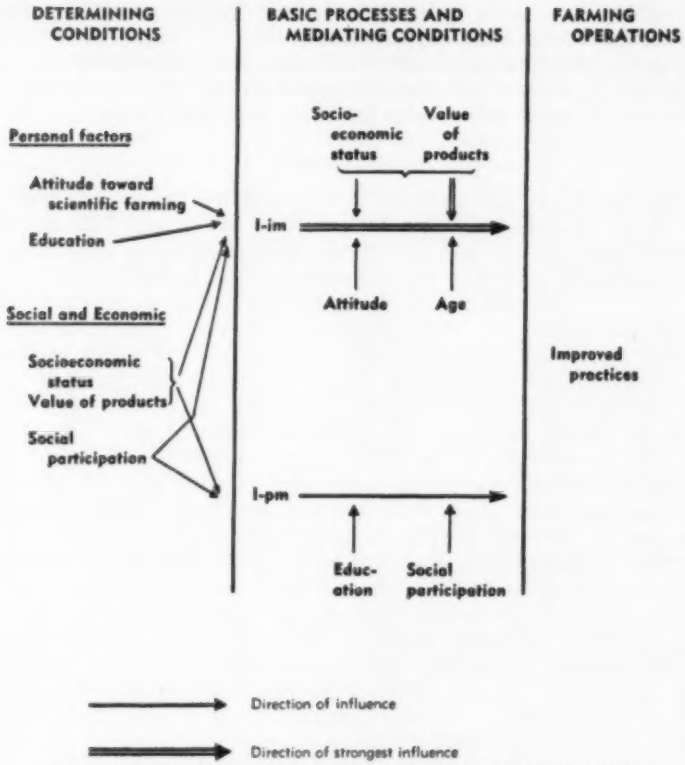

Figure 1. The relation of indexes of farmers' personal and social characteristics to the communication and use of farm practices.

Table 5. Interassociation (gammas) among specified personal and social characteristics of 285 farmers, Washington County, Kentucky, 1955*

Characteristic	1	2	3	4	5	6
1. Attitude		−.07	.22	.43	.34	.42
2. Age			−.39	−.18	−.21	−.30
3. Education				.71	.53	.54
4. Socioeconomic status score					.62	.75
5. Formal social participation						.42
6. Value of products						

*Gammas were computed from 3 x 3 tables for the paired attributes.

variables and the remaining four are relatively low. For this reason, as well as their different referents conceptually, these two variables

are assumed to index independent sets of conditions (dimensions) within the farmer's motivational structure.

Figure 1 presents graphically a summary of the theoretical relationships among these variables as they appear on the basis of this analysis. The flow of causal influence in the figure is from left to right.

DISCUSSION

The model in Figure 1 is useful in portraying the present findings and in interpreting the findings reported by Marsh and Coleman and others. Both the 1950 and 1955 survey data point to the close association between measures of practice adoption and socioeconomic status, contact with information sources, education, value of products, and social participation.[27] More importantly, however, the part of the earlier Marsh and Coleman "controlled analysis" in which socioeconomic scores and education are treated as independent variables, and contact or no contact with agency representatives as the control variable, is logically analogous to the present tests of Type I hypotheses. It is thus notable that the findings are consistent.[28] That is, Marsh and Coleman find that the partial association between practice adoption and socioeconomic scores and education are smaller than the simple associations between practice adoption and each of the latter two factors. As herein interpreted this supports the hypothesis that socioeconomic status and education provide situational support leading to contact with agricultural agencies and, subsequently, to practice adoption.[29] Furthermore, where "contact with agency representatives" is the independent variable and socioeconomic scores and education are the controls, Type II-like hypotheses are tested. Interpreting Marsh and Coleman's findings within the framework used here, one concludes that the association between practice adoption and contact with agency representatives is markedly dependent upon the level of socioeconomic status but not, in so far as one can judge, on education,[30] which is consistent with the analysis of the 1955 survey data.

Since the Marsh and Coleman report appeared, several investigators have used regression and analysis of variance models in attempts to control several variables simultaneously and thus clarify the relation between adoption and certain personal and social characteristics of farmers.[31] With minor exceptions measures of economic production or

[27]Cf. Marsh and Coleman, "The Relation of Farmer Characteristics to the Adoption of Recommended Farm Practices," *op. cit.*, pp. 292–293 and the gammas shown in column 1 of Table 1.

[28]Cf. *ibid.*, Table 5 and p. 296 with the pertinent rows of Table 2.

[29]The case in *ibid.* in which education and socioeconomic scores, alternately, are used as independent and control variables represents a test of the extent to which practice adoption and each variable is spuriously associated. As might be expected, socioeconomic status appears to be the dominant factor.

[30]*Ibid.*, Table 5 and p. 296.

[31]Cf. James H. Copp, *op. cit.*; Frederick C. Fleigel, *op. cit.*; Herbert F. Lionberger and C. Milton Coughenour, *Social Structure and Diffusion of Farm Information*

income, contacts with information sources, and abilities and attitudes favorable to the understanding and use of improved practices have been found to make significant contributions to the variance in adoption scores. On the other hand, age and education of the farmer and measures of his participation in formal organizations have been shown in nearly all analyses to contribute little to variance in adoption scores. Although these findings are quite significant, particularly in constructing more efficient instruments for predicting adoption, no systematic attempt has been made to develop theories of practice adoption based on them. The linear regression model assumes that a value of the dependent variable is a sum of the net contributions of several independent variables. The question is: what do the results mean in terms of the relations among the variables? While such an investigation can not be undertaken here, one notes a superficial correspondence, at least, between the relative importance of factors in adoption as determined in regression analyses and the positions of these factors in the adoption process as shown in Figure 1. For instance, while the influence of education and social particpation is largely interpreted through contact with media of information, measures of scale of farming and productivity both influence contact with media and function as conditions to the use of information received from contact with media.

While Figure 1 is primarily useful as a device to present research findings pictorially, it may also be used to stimulate and guide further investigation. Further development of models is needed for the adoption of practices in general as well as for the adoption of specific sets of practices. In either case, the differential function of media and of characteristics of farmers as conditions in stages in the adoption process should be clarified. The importance of values,[32] rationality in decision making,[33] conceptual ability,[34] and the like in adoption already have been shown. How these variables function in relation to other variables in the adoption process remains to be determined. The work of both Emery and Oeser[35] indicates some of the possible lines along which a model of this type can be elaborated and provides a basis for further generalizing these findings. Finally, in so far as a goal of these researchers is to predict farmers' adoption behavior[36] tests of the model in this respect should receive paramount attention.

(Missouri Agr. Expt. Sta. Res. Bull. 631; Columbia, 1957), pp. 88–89; Everett M. Rogers, *op. cit.*

[32]Charles R. Hoffer and Dale Stangland, "Farmers' Attitudes and Values in Relation to Adoption Approved Practices in Corn Growing," *Rural Sociology*, 23 (1958), 112–120; Charles E. Ramsey, Robert A. Polson, and George E. Spencer, "Values and the Adoption of Practices," *Rural Sociology*, 24 (1959), 35–47.

[33]Alfred Dean, Herbert A. Aurbach, and C. Paul Marsh, "Some Factors Related to Rationality in Decision Making Among Farm Operators," *Rural Sociology*, 23 (1958), 121–135.

[34]Copp, *op. cit.*, and Emery and Oeser, *op. cit.*

[35]*Ibid.*

[36]Another goal of much research in this area, which hold somewhat different implications, is to guide educational programming.

GORDON F. DE JONG
and C. MILTON COUGHENOUR

Reliability and Comparability of Two Instruments for Determining Reference Groups in Farm Practice Decisions

Recently projective tests have been adapted to the needs of survey researchers in studying farmers' practice adoption decisions. Although modified projective techniques are felt to be superior to conventional survey techniques in obtaining reference group data, actual comparisons of different techniques under controlled conditions have not been made. In a study of four matched groups of farmers who were interviewed twice, individual responses to an ambiguous picture designed to elicit reference groups were found to be less consistent than those obtained by a card on which a number of possible reference groups were listed. For all farmers interviewed with the picture the response pattern (reference groups mentioned) was more stable from the first to the second interview than it was for farmers interviewed with the card as a stimulus. Neither approach met usual standards of reliability of consistency of individual responses or the stability of group response patterns.

The authors are graduate assistant and associate rural sociologist, respectively, at the University of Kentucky. The research reported here is part of a project of the Kentucky Agricultural Experiment Station and is published by permission of the director.

IN an effort to obtain information concerning areas of sociological interest which appear inaccessible through the use of conventional research techniques, researchers in sociology have recently begun to

employ projective techniques.[1] Research on the importance of reference groups in farmers' decisions whether or not to adopt new farm practices is a case in point. Recently Rogers and Beal have developed a set of pictures which they have found useful in eliciting responses about reference groups.[2] Two major questions have not been answered, however: (1) what is the reliability and validity of the data obtained by the picture technique, and (2) how does the picture technique compare in this respect to other techniques? The Kentucky study was designed to obtain information concerning these questions. The main objectives were to determine and compare the reliabilities of the data obtained by a picture stimulus (indirect-question) approach and a card stimulus (direct-question) approach, and to assess the comparability of the responses under each approach.

METHODOLOGY

In the Kentucky study the picture stimulus (indirect-question) approach employed an ambiguous stimulus picture to obtain the respondent's perception of different reference groups influencing his adoption decisions.[3] The picture allows the respondent wide latitude in projecting his reference groups on figures and groups of figures in the stimulus picture. When the farmer had finished responding to the picture, the interviewer asked additional questions designed to explore the importance of the reference groups mentioned in the farmer's practice adoption decisions. The follow-up questions were worded in an indirect manner allowing the respondent to reply with a minimum of direct personal involvement. For instance, if the respondent identified neighbors as a reference group, the following question was asked: How important is it to a farmer what his neighbors think of the way he farms?

In the direct-question approach the initial stimulus was a card on which were listed the names of groups and individuals that previous

[1]Fillmore H. Sanford, "The Use of a Projective Device in Attitude Surveying," *Public Opinion Quarterly*, XIV (1950), 679–709; Fillmore H. Sanford and Irwin M. Rosenstock, "Projective Techniques on the Doorstep," *Journal of Abnormal and Social Psychology*, XLVII (1952), 3–16; Murray A. Straus, "Personality Testing in Farm Population," *Rural Sociology*, 21 (1956), 293–294; Milton D. Graham, "The Effectiveness of Photographs as a Projective Device in an International Attitudes Survey," *Journal of Social Psychology*, XL (1954), 93–120; Harold M. Proshansky, "A Projective Method for the Study of Attitudes," *Journal of Abnormal Social Psychology*, XXXVIII (1943), 393–395; Irving A. Spaulding, *Farm Operator Time–Space Orientations and the Adoption of Recommended Farm Practices* (Kingston: Rhode Island Agr. Expt. Sta. Bull. 330; 1955).

[2]Everett M. Rogers and George M. Beal, "Projective Techniques and Rural Respondents," *Rural Sociology*, 24 (1959), 178–182; Everett M. Rogers and George M. Beal, *Reference Group Influence in the Adoption of Agricultural Technology* (Ames: Department of Economics and Sociology, Iowa State College, 1958).

[3]The stimulus picture used in this research is presented in Everett M. Rogers and George M. Beal, *op. cit.*, p. 17.

research had found to be important in practice adoption decisions. The respondents, however, were encouraged to indicate not only groups listed on the card but also any other important groups or individuals occurring to them. To reduce systematic error incurred by the positioning of items on the cards, several cards were used on which the reference groups were listed at random. After the respondent had identified the reference groups, the interviewer asked additional questions designed to explore the importance of these reference groups in the farmer's practice adoption decisions. In accord with conventional survey techniques, the follow-up questions were worded in a manner designed to elicit the desired information directly. For instance, if the respondent identified neighbors as a reference group the following question was asked: How important is it to you what your neighbors think of the way you farm? The two approaches thus differed as to the initial stimulus technique and the wording of the follow-up questions which sought the desired information directly or indirectly.

For testing reliability and comparability of the data, a "test-retest" design was employed in which four test groups of farmers were made comparable as to level of practice adoption and on eight variables significantly related to practice adoption: age; education; socio-economic status; neighborhood adoption type; attitude toward scientific farming; use of the county agent, neighbors, and friends and family members as sources of farm information; value of farm products produced; and participation in formal organizations. Assignment to test groups was made by selecting subjects from the cells of a four-factor table. In this table three variables (education, socioeconomic status, and neighborhood adoption type) were dichotimized, and one variable (attitude toward scientific farming) was trichotimized. Farm operators for whom basic data had been obtained in an earlier study were distributed into the 24 cells of the table.[4] The test groups were matched on the four basic factors by proportionate selection of respondents from all cells in the table. After initial selection of subjects for the test groups, their comparability was checked on the remaining control variables and substitutions were made to obtain similar distributions for each variable. One hundred-twenty farm operators were selected to be interviewed. Each subject was interviewed twice, with four weeks intervening between the two interviews.

Table 1 presents the basic research design.[5]

[4]Cf. C. Paul Marsh and A. Lee Coleman, "Group Influence and Agricultural Innovations: Some Tentative Findings and Hypotheses," *American Journal of Sociology*, LXI (1956), 588–594; C. Paul Marsh and A. Lee Coleman, "The Relation of Farmer Characteristics to the Adoption of Recommended Farm Practices," *Rural Sociology*, 20 (1955), 289–296.

[5]The empirical model employed in this research is presented in Charles E. Osgood, George J. Suci, and Percy H. Tannenbaum, *Measurement of Meaning* (Urbana: University of Illinois Press, 1957), pp. 192–195.

For this study an instrument is considered to be reliable to the extent that similar data are obtained under repeated observation. Comparability is simply a measure of association between the data obtained by the two approaches.[6]

Reliabilities for the indirect- and direct-question approaches were obtained by comparing the first interview data with the second interview data for groups *C* and *D*, respectively. Measures of comparability were obtained by comparing the data for the direct-question test items for the combined *A* and *B* groups with the data for the indirect-question test items for the combined *A* and *B* groups. Combining data for the two groups permits testing for comparability while controlling the order in which the instruments were administered.

Table 1. Design of test groups

	Group *A* N = 20	Group *B* N = 20	Group *C* N = 40	Group *D* N = 40
First interview	Picture stimulus (Indirect-question)	Card stimulus (Direct-question)	Picture stimulus (Indirect-question)	Card stimulus (Direct-question)
Second interview	Card stimulus (Direct-question)	Picture stimulus (Indirect-question)	Picture stimulus (Indirect-question)	Card stimulus (Direct-question)

Table 2 presents the ways in which reliability and comparability can be assessed.

This paper is concerned primarily with the reliability across all items for each approach (Table 2, cells 2 and 4). The comparability of the two approaches for all items is briefly discussed.[7]

The reliability and comparability of the two instruments are considered first in terms of the individual respondents who are on the regression line, or who, in other words, gave consistent responses on both interviews. The statistical measure for this analysis is a percentage figure. Second, reliability and comparability are considered in terms of the significance of difference between the marginal response totals for all items on the first and second interviews. The statistical measure for this analysis is a chi-square goodness of fit test with a coefficient

[6]Since standardized criteria are not available with which present results may be compared, the term comparability is substituted for validity.

[7]A more extensive analysis of reliability and comparability of these approaches can be found in Gordon F. De Jong, *A Comparison of Two Techniques For Studying Reference Groups* (Master's thesis, University of Kentucky, 1960).

Table 2. Paradigm for assessing reliability and comparability

Data	
Single item	All items
(1) Individual by single item	(2) Individual by all items
(3) All respondents by single item	(4) All respondents by all items

of similarity.[8] In the first case attention is focused on the consistency of individual responses to test items, while in the second the attention is on the stability of the distribution of responses to test items. The significance of difference between the indirect- and direct-question approaches is measured by the Wilcoxon matched-pairs signed-ranks test.

FINDINGS AND DISCUSSION

As was suggested earlier, for all items the reliability of individual data (cell 2 in Table 2) or group data (cell 4 in Table 2) can be investigated. Considered first are the reliabilities of the two instruments in obtaining individual data. Table 3 presents the percentage of consistent responses on all items for the indirect- and direct-question approaches.

The data show a significant difference between the reliabilities obtained by the indirect- and direct-question approaches. For all items there is a significantly greater percentage of consistent responses, as measured by the Wilcoxon test, with the direct-question than with the indirect-question approach. The mean percentage of consistent

[8]In computing the chi-square test, the first interview marginal totals were used as the expected response patterns to which the second interview response patterns were compared. The coefficient of similarity is a measure used to standardize values obtained by the chi-square goodness of fit test. Although it resembles the corrected coefficient of contingency, the coefficient of similarity has a different meaning since it is derived from a different model for chi-square. While chi-square for contingency is based on data arrated in the usual contingency table form, the chi-square for similarity is based on frequency distributions. By employing the computational procedures for contingency and subtracting from 1, the coefficient of similarity can be standardized.

Table 3. Percentage of consistent responses for all items, by type of stimulus*

Item	Stimulus on successive interviews	
	Picture (indirect)	Card (direct)
	Per cent	
General reference group items		
Number of groups mentioned	27.5	27.5
Neighbors mentioned	60.0	67.5
County agent mentioned	62.5	80.0
Farmers with experience mentioned	45.0	62.5
Reference group most often considered	27.5	57.5
Neighbors		
Importance of neighbors' opinion	42.5	35.0
Importance of trying new practice	45.0	42.5
Neighbors' consideration of farmer	42.5	32.5
Neighbors work hard for adoption	52.5	52.5
Consideration of innovator	42.5	32.5
Decision making and neighbors	52.5	40.0
Content of conversation	45.0	30.0
Try a practice if neighbors unfavorable	30.0	30.0
County agent		
Importance of the county agent's opinion	42.5	47.5
Number of times county agent contacted	30.0	42.5
Where county agent contacted	40.0	65.0
County agent works hard for adoption	52.5	65.0
Decision making and the county agent	37.5	65.0
Try a practice recommended by the agent	50.0	65.0
Farmers with experience		
Importance of F.W.E. opinion	37.5	47.5
F.W.E. consideration of farmer	45.0	52.5
F.W.E. works hard for adoption	42.5	52.5
Mean =	43.3	49.7

Wilcoxon matched-pairs sign-ranks test = 44.5*

*Significant at the .05 level.

responses for the direct-question approach is 49.7 as compared with 43.3 for the indirect-question approach. Compared with generally accepted standards of reliability, however, neither approach provides satisfactory data.

Attention now shifts to the reliability of the data for all respondents in each stimulus group (Table 4). Across all items there is a significantly greater stability of the marginal totals, as measured by the Wilcoxon test, with the indirect-question than with the direct-question approach. For the direct-question approach, 11 of 22 coefficients of similarity are significantly different statistically and thus considered to be unreliable. By comparison, only 3 of 22 coefficients of similarity are significantly different at this level with the indirect-question approach.

The findings indicate the importance of a separate analysis of the data for individual responses and the response pattern of the group as a whole. For both instruments the data for the group as a whole are more reliable than the data for individuals in each group. On the assumption that reference groups in farmers' practice adoption decisions were stable for the study period, one conclusion is that unstandardized operations in the interview precipitated different responses in repeated administration of the instruments. However, changes in reference groups under repeated observations appear to be random rather than systematic since the marginal totals tend to remain stable under repeated observation.[9] While it cannot be overlooked that an unknown part of this variation is attributable to respondent inconsistency, the unreliability of the data obtained by these instruments remains a salient fact. In light of these findings serious questions can be raised concerning the use of either of these approaches to obtain information about reference groups of individual farmers in practice adoption decisions. The limitations of these techniques are less severe in obtaining data for groups.

As the data in Tables 3 and 4 indicate, the comparative superiority of one approach over the other depends on the type of reliability considered. The direct-question approach provides more reliable data in terms of the percentage of consistent responses for individuals, but the indirect-question approach yields greater reliability in terms of the stability of marginal response totals for the groups as a whole. It appears that the indirect-question approach, which allows greater freedom of individual response, tends to precipitate increased stability of group-response patterns while tending to reduce consistency of individual responses. Conversely, the greater structuring of the direct-question approach, which demands direct personal involvement, tends

[9]Considering the nature of the results, an implied conclusion is that the stability of the marginal totals is a function of the size of the group, and that stability increases as the size of the sample increases.

Table 4. Coefficients of similarity for all items, by type of stimulus*

Item	Stimulus on successive interviews	
	Picture (indirect)	Card (direct)
	Similarity coefficient	
General reference group items		
Number of groups mentioned	.508	.488
Neighbors mentioned	.683	.370
County agent mentioned	.920	.843
Farmers with experience mentioned	.834	.293
Reference group most often considered	.702	.640
Neighbors		
Importance of neighbors' opinion	.536	.494
Importance of trying new practice	.494	.683
Neighbors' consideration of farmer	.504	.368
Neighbors work hard for adoption	.580	.319
Consideration of innovator	.574	.431
Decision making and neighbors	.618	.596
Content of conversation	.627	.496
Try a practice if neighbors unfavorable	.365	.182
County agent		
Importance of the county agent's opinion	.851	.377
Number of times county agent contacted	.859	.334
Where county agent contacted	.710	.842
County agent works hard for adoption	.894	.832
Decision making and the county agent	.183	.704
Try a practice recommended by the agent	.892	.778
Farmers with experience		
Importance of F.W.E. opinion	.651	.020
F.W.E. consideration of farmer	.568	.322
F.W.E. works hard for adoption	.392	.342
Mean =	.634	.489

Wilcoxon matched-pairs sign-ranks test = 43.0*

*Significant at the .01 level.

to result in a greater percentage of consistent individual responses while tending to reduce the stability of group response patterns.

As the findings indicate, for neither the direct- nor the indirect-question approaches do the reliabilities approach satisfactory standards. Although the direct-question approach produces significantly greater individual reliability than the indirect-question approach, the percentage of consistent responses for both approaches is less than 50 per cent. While no general standard is available to which the reliabilities of the marginal responses can be compared, the mean coefficients of similarity of .634 and .489 for the indirect and direct approaches, respectively, serve to indicate the extent to which the responses are unstable.[10]

The data in Tables 3 and 4 also suggest that the two approaches differ in the reliability of data obtained for types of reference groups. Four categories of items were included in the schedule: (1) general reference groups, (2) neighbors as a reference group, (3) county agent as a referent, and (4) farmers with experience as a reference group. With one notable exception, the comparative reliabilities of data for the two approaches by item categories are consistent with the relationships shown for all items. For items concerning neighbors as a reference group, however, the indirect-question approach produced the most reliable data in terms of both the stability of marginal responses for the group as a whole and the percentage of consistent responses for individuals. It is possible that the superiority of the indirect-question approach is the result of a defense mechanism employed by respondents when questioned directly concerning their attitudes about neighbors, especially when close personal friends are neighbors.

Comparability of the data obtained by the two approaches is low. This is to be expected in view of the low reliabilities. Even so, the data did not indicate that the instruments were measuring different variables, or that one was superior to the other in providing valid reference group data.

SUMMARY AND CONCLUSION

Reliability is primarily analyzed in two ways: (1) the percentage of consistent responses of individuals on the first and second interviews, and (2) the stability of response patterns for the group as a whole, as measured by the corrected coefficient of contingency.

The major findings are:

1. In the consistency of individual responses, the card stimulus (direct-question) approach was significantly more reliable than the picture stimulus (indirect-question) approach. However, in the stability of group response patterns, the indirect-question approach was superior to the direct-question approach. For neither approach

[10]The problem facing each researcher is to determine in terms of his problem whether or not this much instability is permissible.

did reliabilities, as measured by the percentage of consistent individual responses, approach satisfactory levels.

2. Reliabilities for group response patterns were greater than for individuals; nevertheless, the reliabilities are below the usually accepted levels.

3. Comparability of the data obtained by the two approaches was low. This is largely attributable to the low reliabilities rather than to differences in variables measured.

4. The indirect-question approach was found to yield more reliable data than the direct-question approach on items pertaining to neighbors as a reference group.

From the findings it is evident that further research on instruments and techniques of obtaining reliable and valid data concerning reference groups and individuals in farmers' practice adoption decisions is necessary. Developmental research may proceed along several lines. In the first place, an instrument could be devised which employs multiple questions to determine reference groups. Second, development could be directed toward improving the construction and administration of projective techniques. A major consideration in this regard is the training of interviewers in the effective use of these techniques. In so far as data on reference groups in farmers' practice adoption decisions is of further importance, these and other ideas of improving data-gathering instruments and techniques should receive careful consideration.

ANNE WILLEM VAN DEN BAN

Locality Group Differences in the Adoption of New Farm Practices*

This study tests the hypothesis that the social organization and culture of locality groups are major factors influencing adoption of new farm practices. The differences in level of adoption for the townships studied cannot be explained by individual socioeconomic characteristics such as educational level, farm size, or net worth.

A case study was made of a low-adoption and a high-adoption township to explore reasons for these differences. Farmers in the low-adoption township were of Calvinistic Dutch origin and those in the high-adoption township mainly of Norwegian and German Lutheran origin. Possible direct religious influences on adoption are discussed. These Calvinistic farmers consider themselves the stewards of God on the earth. This makes changes in farm practices a decision for which they need greater certainty than would usually be required. However, the difference in the adoption of the two townships seems to be due primarily to the greater social isolation and stronger social control characteristic of the Dutch township.

The author is a research officer in the Department of Rural Sociology of the Agricultural University at Wageningen, Netherlands, and made this study during his leave as a research assistant at the University of Wisconsin.

RECENT analyses of the adoption of new farm practices have emphasized individual differences in the characteristics of early and late adopters. Theoretical considerations and also some empirical evidence suggest that the kind of social structure in which a farmer lives should be at least as important as individual differences. It is surprising that sociologists studying the problem have made relatively little use of this essentially sociological approach. There are, however, at least two

*This paper is based on research done under Wisconsin Agricultural Experiment Station projects 842 and 925. The author is indebted to Professor Murray A. Straus for his assistance in this study and for making available the data of the Wisconsin Farm and Home Development Study, and to the people of Alto and Deerfield for their information and friendliness.

studies which have taken this approach. Marsh and Coleman found that the neighborhood of residence in one Kentucky county importantly affects the adoption of new farm practices.[1] This county was restudied five years later by Young and Coleman.[2] They found that (1) the farmers in the high-adoption neighborhood had a more scientific orientation in farming matters and made more use of different information media, including other farmers, than those in the low-adoption neighborhoods; (2) as in Marsh and Coleman's study and in an unpublished Dutch study, the opinion leaders were most ahead of the average farmer in the adoption of new farm practices in the high-adoption communities. On the other hand, in the Netherlands the author was unable to find significant differences in the adoption of new farm practices between agricultural areas.[3] These studies raise two questions to which this paper intends to give a partial answer: (1) Do the type of locality group influences reported for Kentucky apply outside that state or region? (2) What is the *process* by which locality groups influence the adoption of new farm practices?

LOCALITY INFLUENCE

This analysis is based partly on data available from the Wisconsin Farm and Home Development Study.[4] An area probability sample was interviewed in 1954, consisting of 900 farmers drawn from nine counties. Forty-seven townships were selected at random and all farmers were interviewed who were under 45 years of age, who received at least half of their cash income from farming, and who had been farming ten years or less. The locality unit used for this study is therefore the governmental unit, the township. Such an arbitrary unit is undoubtedly less meaningful for the problem of this study than a social unit like the neighborhood. Therefore, if the township of residence is found to have an influence on the adoption of new farm practices, it seems safe to assume that neighborhoods would have an even larger influence.

As a first step, the 47 townships were divided into four groups

[1]C. Paul Marsh and A. Lee Coleman, "The Relation of the Neighborhood of Residence to Adoption of Recommended Farm Practices," *Rural Sociology*, 19 (1954), 385–390.

[2]James N. Young and A. Lee Coleman, "Neighborhood Norms and the Adoption of Farm Practices," *Rural Sociology*, 24 (1959), 372–383.

[3]A. W. van den Ban, *Regional Differences in the Adoption of Some Farm Practices* (Department of Rural Sociology, Agricultural University, Bull. 9; Wageningen, Netherlands, 1958), p. 63. In Dutch with a summary in English.

[4]See Murray A. Straus, *Short Term Effects of Farm and Home Development in Wisconsin* (Madison: Department of Rural Sociology, University of Wisconsin, 1958 [processed]); and "Managerial Selectivity of Intensive Extension Work," *Rural Sociology*, 24 (1959), 150–161.

according to their average adoption score. Chi-square analysis shows that adoption scores of these four groups differ significantly ($\chi^2 = 116$, df $=9$, $P < .001$). Can these differences between the average adoption scores of the townships perhaps be explained by the individual characteristics (such as low or high education) of the farmers in these townships? To answer this question, the sample was classified according to educational level (grade school or less, some high school, and high school completed). Then the four groups of townships were compared separately for each of the education categories. The difference between townships remained significant within each of these education groups at least at the .02 level. The same is true for similar analyses holding constant 4–H Club membership, size of farm, and net worth.

A weakness of this analysis is that education, 4–H membership, farm size, and net worth are not independent. Therefore, each farmer was given a score on the basis of these four individual socioeconomic factors.[5]

Differences between township groups were then selected by comparing the proportion of "high adopters" (those with adoption scores of 47 or more) in the four groups of townships for each of these "prediction score" categories. Table 1 shows that regardless of the individual prediction score (that is, looking at Table 1 column by column), there is a significant difference in the proportion of "high adopters" between quartiles of townships.

This indicates that a farmer with a high level of education, on a large farm, and with a high net worth, but residing in a township with a low level of adoption of new farm practices, will probably adopt fewer improved practices than he would if he farmed in a township where the average adoption level is high. The question that needs to be answered is: what are the reasons for these differences among townships? To explore some of the possible answers to this question case studies were made of two southern Wisconsin townships which were similar in soil productivity, but which differed considerably in their adoption scores.[6]

[5]This prediction score is based on:

	Points
4 farm size groups	0–3
4 net worth groups	0–3
3 groups for the education of the farmer	0–2
2 groups for membership in 4-H	0–1

The weights given to each of these factors were arbitrarily chosen, but there are some indications that these weights are not too important if the factors are clearly intercorrelated. See H. R. Cottam, "Housing Scales for Rural Pennsylvania," *Journal of the American Statistical Society*, 38 (1943), 406–413.

[6]The reasons only townships in southern Wisconsin were selected were partly a matter of research economy, but mainly that farmers in northern Wisconsin have different circumstances, including poorer soil and climatic conditions, from those in the southern part of the state. Many townships in northern Wisconsin have a considerably lower average adoption score than the low-adoption township selected for the case study.

Table 1. Relationship between township of residence and percentage of "high adopters" in the township, with individual characteristics controlled

Adoption level of township	Percentage of "high adopters" among farmers with individual prediction scores of:					
	0+1+2 (N=212)	3 (N=142)	4 (N=171)	5 (N=168)	6+7+8+9 (N=210)	Total (N=903)
Lowest quartile of townships (N=166)	13	10	25	45	30	23
Second quartile of townships (N=256)	28	52	42	63	64	48
Third quartile of townships (N=233)	42	49	50	56	79	56
Highest quartile of townships (N=248)	58	77	60	64	88	71
Total (N=903)	35	46	46	58	72	52
X^2	23.8	27.2	11.7	3.3	35.9	
P	0.001	0.01	0.01	0.5	0.001	

Average adoption level of the township independent of prediction scores and adoption scores: $X^2 = 101.9$, d.f. = 27, $P < .001$. See: M. W. Tate and R. C. Clelland, *Nonparametric and Shortcut Statistics* (Danville, Ill.: Interstate Printers and Publishers, 1957), pp. 75–76, for the technique used to compute the over-all X^2.

THE LOW-ADOPTION TOWNSHIP

Alto Township in Fond du Lac County is clearly distinguished by the fact that the population is mainly of Calvinistic Dutch origin.[7] Both husband and wife were of Dutch origin in 82 per cent of the families interviewed. In 12 per cent either husband or wife was Dutch, and only 6 per cent were of non-Dutch origin. These are remarkable figures for a small ethnic group of which the largest part came to the United States soon after immigration started in 1846.[8]

[7]It is only by coincidence that a township was selected whose people came originally from the country of the author.

[8]The census of 1910 for Fond du Lac and two neighboring counties with which the people of Alto have some interaction shows about 1,000 persons who were born in the Netherlands and nearly 1,200 with both parents born in the Netherlands. There has not been much immigration since that time.

One of the causes of this group's remaining outside the American melting pot for such a long time is related to its motivation for emigration.[9] Many left for religious reasons as well as economic considerations. Until 1848 the Dutch king had great influence on the appointment of ministers and the government of the Dutch Reformed Church. This power was exerted in such a way that the church was highly influenced by the Enlightment. Many of the poorer people belonged to a pietistic movement that did not accept this kind of teaching. They therefore left the Dutch Reformed Church in 1834. The Dutch constitution allowed freedom of religion to the existing churches, but this provision was interpreted in a way that allowed no freedom to establish a new church. Church services of these "Separatists" were prevented by the army, Ministers were fined for preaching, and church members lost their jobs. Many therefore emigrated to the United States. Even after the persecution stopped in 1848 many of the immigrants were Separatists because of relatives and friends already in the United States.

It is understandable that these immigrants were eager to maintain their religious tradition in the new country. However, this is rather difficult for a small group with distinct religious beliefs. What factors have contributed to the ability of Alto Township's Dutch farmers to maintain their separate identity? The church opposes intermarriage with persons from other denominations and, as we shall see, enforces the social isolation needed to maintain religious endogamy.

The religious tradition of these people is based on the conviction that not only a church membership, but especially a personal belief in Jesus, is important. God is considered to be the Sovereign of the earth and man His steward. Every person will be held accountable for the way in which he fulfills this stewardship. This makes these Dutch Calvinist farmers hard-working people who take good care of their homes and their land.[10] It also encourages thrift, because they do not want to waste money they administer for God. They disapprove of dancing and the drinking of liquor (there has been no tavern in the whole township during this century) and unnecessary work on Sunday. A clear indication of the importance the church has for the people of Alto is that 216 families of the Alto Reformed Church in 1958 donated $50,628 to their church; nearly 100 of them gave 10 per cent of their income. Church services are attended twice each Sunday by nearly

[9]See J. van Hinte, *Nederlanders in Amerika* (2 vols.; Groningen: P. Noordhoff-Groningen, 1928), esp. Vol. I, pp. 83–115, 160–163; Vol. II, pp. 405–578. See also S. Lucas, *Netherlanders in America* (Ann Arbor: University of Michigan Press, 1955), esp. pp. 42–72, 201–205, and 471–637.

[10]Therefore the average rather low adoption score of the farmers in Alto does not mean that they make less of their farms than farmers of other ethnic groups do.

everybody and often they attend meetings in church during the week as well.

These Calvinists see all events on earth as an act of God. Weber holds that this belief is one reason for the economic importance of Calvinism, since high income is a sign that one is elected by God for eternal life.[11] In Alto there is some inclination to believe that if one asks God in full faith for a reasonable income, He probably will give it. But God's path remains always inscrutable. It would also be improper to ask for more than one really needs. Thus, although Weber saw Calvinism resulting in an increase in aspiration level, in this setting it may set boundaries to the aspiration level.[12]

There are two slightly different denominations in Alto: the Reformed Church, of which about two-thirds of the farmers are members, and the Christian Reformed Church. None of the farm families of Dutch or partially Dutch origin interviewed in 1954 belonged to any other denomination. The Christian Reformed Church is a bit stricter in its teaching and more in favor of isolation from the American society than the Reformed Church. It has its own parochial grade school and has just started a parochial high school, whereas the Reformed parents send their children to the public schools. The co-operation between these two churches is good and intermarriages are frequent.

Education is not highly valued in this community. Only 18 per cent of the young farmers interviewed in 1954 graduated from high school (43 per cent in the high-adoption township). Also at present many farmers let their children drop out of school at the age of 16. A reason for the low value on education is the persistence of a familistic orientation. Children are expected to help their parents improve the economic position of the family. The individualistic pattern in which the parents give their children as good an education as possible, and expect no financial advantages for themselves in return, is not

[11]Max Weber, *The Protestant Ethic and the Spirit of Capitalism*, trans. Talcott Parsons (London: Allen & Unwin, 1930), pp. 98–128 and 155–183, esp. pp. 172 and 175.

[12]Summarizing Max Weber's theory, Gardner Murphy wrote: "For the Protestant ...the conception of morals became anchored more and more upon the conception of individual successes as a mark of God's favor.... If the man prospers, this is because he stands well in the eyes of God" (G. Lindzey, *Handbook of Social Psychology* [Cambridge, Mass.: Addison Wesley Publishing Company, 1954], p. 615).

There are probably many Calvinistic groups who, just like the people in Alto, do not believe that a high income is a sign that one is elected by God for eternal life. Otto Weber wrote on this point: "the opinion cannot be proven, that Calvin's doctrine of predestination has promoted the growth of early capitalism, because this doctrine has taught the people to see economic success as a confirmation of election. This opinion can be found only late in some scattered Puritan groups." *Handwöerterbuch der Sozialwissenschaften* [Stuttgart, Tübingen, und Göttingen, 1959], article on Johannes Calvin, pp. 465–466.

generally accepted. It is also rather common for a child who works for wages to give his earnings to the parents for the support of the family and keep only some spending money. This pattern seems to encourage thrift, but it provides perhaps little support for high levels of aspiration and managerial risk taking.[13]

Communication of Alto farmers with farmers of other nationalities is minimal. Those who live near the boundaries of the township may go to a feed mill in one of the neighboring towns and talk with other farmers while waiting for the grinding of their grain, but they will seldom visit in their homes. Visiting is mainly done with relatives and neighbors. Home visiting with neighbors is somewhat decreasing since the disappearance of the threshing and silo filling crews, the appearance of television sets, and the increase in the number of meetings. No indications were found that such home visiting patterns are influenced by differences in social status.[14] Alto farmers are often proud of the fact that the differences in social status from which their ancestors suffered in the old country are not present here.

Alto farmers are reluctant to leave their community. One informant expressed this by saying, "They stick together like glue." This is partly due to the fact that Alto land is more productive than land in most other parts of Wisconsin. It is also due to the strong primary group ties of this area and to the fact that their religious beliefs are accepted here. Therefore Alto farmers are willing to pay a considerably higher price for a farm near the church than for a farm at ten miles distance. In only 26 per cent of the families was either husband or wife born outside Fond du Lac County or Dodge County which borders on Alto. Most of this 26 per cent came from another Calvinistic Dutch community only twenty miles away. One of the results of this isolation is a lack of familiarity with the customs outside the community. One young farmer asked, for instance, "Is it really true that there are quite a number of persons in Madison who do not go to church at all?"[15]

[12]The possibility exists that the low interest in education in Alto results from less confidence in progress than most Americans have, because the Alto residents do not see higher level of living as a real improvement in human nature. We were not able to find indications of this view.

[14]This is in accordance with the proposition: "In any system, the more homogeneous the members are with regard to value orientation and the smaller the system the less likely that rank and status of the members will vary greatly" (C. P. Loomis, J. A. Beegle, and T. W. Longmore, "Critique of Class as Related to Social Stratification," *Sociometry* 10 [1947], 323). Some recent immigrants from the Netherlands were quite astonished by the lack of differences in social status in the American society—that is, in these Dutch communities.

[15]If their history is the main explanation for the social isolation of the Calvinistic Dutch immigrants in the United States, one should expect that the present-day immigrants of this group, who are used to freedom of religion, will not isolate themselves strongly from a Protestant culture. Moreover, the present-day Dutch farmer is used to close co-operation with the Agricultural Extension Service. Tuinman describes the pattern of Dutch immigration in Canada indeed thus: "The Nether-

The lack of contact does not mean that there is a strong antagonism against outsiders, at least as long as they respect the Calvinistic beliefs and "do not swear every other word." The few persons of other nationalities who live in the community are pretty well accepted. One Polish Roman Catholic has even been president of the local Farm Bureau. The county agent is a Roman Catholic, but no indications were found that it would be much easier for a Calvinistic county agent to gain the confidence of these farmers.

A positive side of the strong community feeling in Alto is that social prestige seems to be based to a rather high degree on service to the community and the church. This makes it possible to organize in this township many community activities, including a good consolidated grade school, a strong Farm Bureau with many local activities, and the largest 4–H Club in the county. One reason for the strength of the 4–H Club is that members exhibit at a local fair organized with the help of more than thirty farmers. This fair attracts many visitors from outside the township. Exhibiting at the county fair is impossible because the children would have to be there on Sunday.

THE HIGH-ADOPTION TOWNSHIP

The northern part of Deerfield Township in Dane County was originally settled by German Lutherans and the southern part by Norwegians. Among the Germans not much feeling of belonging to their own ethnic group is left. Ethnic cohesiveness is a bit stronger among the Norwegians, probably because they were not influenced by the anti-German sentiments of the two world wars. Of the farmers in Deerfield interviewed in 1954, 55 per cent were from mixed parentage and 41 per cent also had an ethnic background other than Norwegian or German. Because of the fact that about 40 per cent of the foreign-born Wisconsin population is of German origin and 10 per cent of Norwegian, it would have been much easier here than in the Dutch community for an inhabitant to find a marriage partner within his own ethnic group. Yet the reverse is true.

The Lutheran religion sees man also as the steward for God on this earth, but the preaching in church seems not to stress this part of the Lutherans' religion as strongly as the Calvinists, especially not the point that man is held accountable for this stewardship. Furthermore, church attendance is considerably lower in Deerfield than in Alto. One gets the impression that many farmers in Deerfield see no clear connection between their religion and their way of farming.

In Deerfield visiting is done to a large extent among relatives. Neighbors seem to be somewhat less important and friends more important

---

landers establish themselves among the population and not in separate communities" (A. S. Tuinman, "The Netherlands–Canadian Migration," *Tijdschrift voor Sociale en Economische Geografie*, [1956], p. 186).

than in Alto. A slight influence of differences in social status on visiting relationships is noticeable. Most visiting is here done with persons within a few miles distance, but in contrast to Alto there are also some farmers who visit farmers at a larger distance, sometimes even more than 100 miles.

Deerfield farmers are also reluctant to move far from this community where they know the land and the type of farming, and where they have their friends. Nevertheless community feeling is much less strong in Deerfield than in Alto and outside contacts including marital ties are much more frequent than in Alto. This is illustrated by the fact that in only 59 per cent of the families interviewed, both husband and wife were born in Dane County or in Jefferson County which borders Deerfield. Farmers' organizations work only on a county basis and not on a township or community basis and the participation is not too widespread.

REASONS FOR THE DIFFERENCE BETWEEN THE TWO TOWNSHIPS IN THE ADOPTION OF NEW FARM PRACTICES

Let us start with cultural explanations for the difference in farm practice adoption between these two townships. Are the values of the Dutch Calvinistic culture less favorable to the adoption of these practices than the Norwegian-German Lutheran values? Other Calvinistic Dutch communities in the United States are also described as conservative.[16]

There is always a risk involved in the adoption of new farm practices, and farmers of Dutch Calvinistic origin seem less willing to undertake this risk than other American farmers. The Calvinistic farmer sees himself as the steward of God on the farm the Lord has given him. The decision to adopt a new farm practice is therefore more "sacred" than for a Lutheran farmer. If it goes wrong he will not only lose money, but he also bears the responsibility for this decision toward the Sovereign of this earth. It is understandable that under these conditions he may need more time to gather the information needed to make this decision than the farmers of other denominations who can lose only their own money if their decision turns out wrong.

Let us illustrate this with the example of insurance. A Calvinist sees an accident as an act of God. He therefore has to decide if he is allowed to interfere with these acts of the Lord by taking out insurance. The resolution of this problem now current in Alto is the belief that before one can expect any help of God one must first try to help himself as

[16]Hoffer says of Dutch celery growers in Michigan: "The tendency of the typical Dutch farmer not to accept a new practice unless he is convinced it is to his direct and immediate advantage to do so" (Charles R. Hoffer, *Acceptance of Approved Farming Practices among Farmers of Dutch Descent* [Michigan State University Agr. Expt. Sta. Spec. Bull. 316; East Lansing, 1942], p. 11).

much as possible. Insurance is one way to help oneself. However, it has taken somewhat more time to accept insurance here than among farmers who see the decision to take out insurance only as a "secular" decision.

The retarding influence of the "stewardship of the Lord" concept on the adoption of new farm practices is, however, mitigated by the fact that the farmer not only has the calling to work well on his farm, but must also make decisions and accept responsibility for these decisions as the Lord's steward. If one asks whether it is right for a farmer to use credit to increase his farm size, one can get such an answer as: "Sure, the Lord has given him the talents to be a good farmer and therefore it would not be right to waste these talents on a small farm." There are no indications that farmers in Alto use less credit for their farms or are less in favor of the use of this credit than farmers in the high-adoption township in the study or in other parts of Wisconsin. They are, however, less inclined to the use of credit for home appliances. This may reflect a feeling that it is improper to have a higher level of living through credit than the Lord is willing to give them through their immediate income. As in the case of insurance, a time lag factor may be involved. That is, the use of credit for home appliances has started later than the use of credit for the farm business and may not yet have had time to become widely accepted in this community.

The situation in Europe provides another indication that the difference between Calvinism and Lutheranism can explain only a small part of the difference in the adoption of new farm practices between Alto and Deerfield. First, Dutch farmers are more inclined to adopt new practices than the farmers in most other European countries.[17] Second, there are no indications that within the Netherlands Calvinistic farmers are less inclined to adopt new farm practices than farmers of other denominations.[18] Furthermore, in the region from which most farmers in Alto come farmers have adopted new farm practices

[17]See the study of a former agricultural attaché at the German Embassy in the Netherlands: J. Frost, *Die holländische Landwirtschaft, ein Muster moderner Rationalisierung* (Dutch Agriculture, an Example of Modern Rationalization) (Berlin: Paul Parey, 1930); or Colin Clark, *The Economics of 1960* (London: Macmillan, 1942), p. 36. One of the reasons the Dutch agriculture is rather modern is that it depends to a large degree on exports. This makes it difficult for the government to improve farm incomes by price support or import regulations. Therefore nearly 2 per cent of the gross farm income is spent for agricultural research, agricultural vocational education, and agricultural extension.

[18]A. W. van den Ban, "Some Characteristics of Progressive Farmers in the Netherlands," *Rural Sociology*, 22 (1957), 206. The religious beliefs of the members of the Christian Reformed Church in the Netherlands are most similar to the beliefs of the farmers in Alto. Some of the members of the Dutch Reformed Church have religious beliefs similar to those of the members of the Reformed Churches in Alto. Many, however, explain the Bible in a much more liberal way and for them the church is of much less importance in their daily life.

to a greater extent than in most other parts of the Netherlands, and a larger proportion of the farmers have attended vocational agriculture schools and courses.[19]

Another possibility is that attitudes toward mechanization account for the differences between the townships. Calvinists see laziness as a sin. It might be more difficult for them to adopt new machinery that makes work easier than it is for farmers of other denominations. This can hardly be a reason for the differences in this study, because only two of the sixteen practices included in the adoption score were dealing with farm machinery.

Questions about the use made of the agricultural extension service and the amount of help this service has given showed no difference between the townships. There is, however, one difference in the attitudes of the farmers toward the extension service in both townships. In Alto many farmers have the opinion that farm prices should be regulated by supply and demand and not by government intervention. Apparently one reason for this opinion, of which many farmers are no longer aware, is that during the depression years some crops and livestock were destroyed by the government. Alto farmers believe it is a sin to destroy products that are given by the Lord. Therefore, to prevent repetition of this sin, farmers should manage their own business without government intervention. A few farmers are also afraid that co-operation with the agricultural extension service will lead to similar government intervention in their business.

In Deerfield, on the other hand, many farmers favor government restrictions on production, similar to the ones which work well for tobacco, an important local crop. They reason that supply and demand cannot solve the farm price problem, because in the case of low prices the farmers who remain in business will increase their production in order to maintain their income. This kind of reasoning gives the extension service in Deerfield one difficulty less to overcome than in Alto, but it is only a minor difficulty.

Having examined all these cultural and religious value explanations we are forced to conclude that the main reason for difference in the adoption of new farm practices between the two townships can probably not be found in differences in values *directly* related to adoption. Instead we must turn to a social structural interpretation. The evidence presented suggests that the key differentiating factor is the greater

[19]This area is "De Graafschap" in Gelderland; see A. W. van den Ban, *Regional Differences in the Adoption of New Farm Practices in the Netherlands* (Department of Rural Sociology, Agricultural University, Bull. 9; Wageningen, Netherlands, 1958), pp. 72–84; and A. W. van den Ban, *Vocational Training in Agriculture of the Dutch Farmers* (Department of Rural Sociology, Agricultural University, Bull. 6; Wageningen, Netherlands, 1957), pp. 66–78 (both in Dutch with a summary in English).

social isolation of Alto township.[20] It is a well-established fact that mass media and meetings are able to arouse the interest of the farmers for new farm practices. Such media are often not sufficient to induce actual adoption of these practices. This can usually be done only by personal influence. The American extension service leaves this last task to be done mainly by other farmers. But as described above, farmers in Alto talk mainly with a rather small group of farmers. This makes it less probable than in Deerfield that one of them has tried a new practice.

Furthermore, social control seems to be stronger in Alto than in Deerfield. Each person is better known and more closely integrated into the closed community of Alto. Personal gossip is more prevalent. Perhaps the idea of Christian brotherly love makes the people in Alto more concerned about what their neighbors are doing and more inclined also to help them by preventing mistakes by warning them not to adopt a new practice that will not work. Furthermore, the unselective social interaction in Alto and the lack of differences in social status seem to make it more difficult than in Deerfield for a progressive farmer to select a membership or reference group who are also interested in the adoption of new farm practices. These make it more difficult for Alto farmers to try a new practice before they are quite sure that it will work. On the other hand, one result of the stronger social control in Alto seems to be that as soon as a practice is accepted by some leaders, it can spread rather rapidly.

We conclude therefore that difference in the adoption of new farm practices between the townships studied can be only partly explained by differences in individual characteristics or by values directly affecting farming. Difference in social structure seems to be more important, and particularly the social isolation of Alto and the relative absence of social class differentiation, the familistic pattern, and the stronger informal social control which result in part from this isolation and in part from the particular configuration of historical, economic, and religious factors which have given rise to and supported this pattern of social organization.

CHANGE AND INDIVIDUAL DIFFERENCES

Each of the two townships studied is changing and there are considerable differences among farmers within both communities. There

[20]The pervasive influence of isolation *vs.* accessibility is a familiar theme in much sociological writing and is given particular emphasis by Howard Becker. See his *Through Values to Social Interpretation* (Durham, N. C.: Duke University Press, 1950). For European studies showing the relationship between social isolation and adoption of new farm practices, see B. Benvenuti, "Farming in Cultural Change" (Doctoral dissertation, Agricultural University, Wageningen, Netherlands, 1960);

are in Alto some farmers who have a higher adoption score and more outside contacts than most farmers in Deerfield. One Alto farmer even had a private swimming pool in his garden and such a farmer was not found in Deerfield. However, on the average there is an important difference between the two areas.

The isolation of Alto is gradually breaking down. Language differences with neighbors have already practically disappeared. Farmers on the borderline of the Dutch community interact with their neighbors and sometimes exchange work with them. Education also has a considerable influence on the breaking down of cultural isolation. At the high school the children learn to know the opinions of children and teachers of other denominations. But they are unlikely to accept these opinions as long as they live at home where they are highly influenced by the values and social control of their own family and neighbors. At college, except at the church-supported colleges, attitude change is often larger, but the college graduates will usually not return to their own community. Most farm families now have television and this provides an influx of the American culture in their homes of which they are not well aware. In all, it seems doubtful that the strong isolation of this community can be maintained for more than one generation longer. With the decline of this isolation should come a gradual equalization in the use of improved farm practices.

H. Mendras, *Les paysans et la modernisation de l'agriculture* (Paris: Centre National de la Recherche Scientifique, 1958); and I. Chiva, "Causes sociologiques du sous-développement régional," *Cahiers Internationaux de Sociologie,* XXIV (1958), 80–88.

A. O. HALLER

The Occupational Achievement Process of Farm-Reared Youth in Urban-Industrial Society

The present paper, based on data from farm boys in a highly urban-industrial region with excellent educational facilities, is an attempt to infer a valid explanation for the farm-planner's low levels of educational and occupational aspiration and to explain differential plans regarding farming. The explanation inferred holds that farming is the normal occupational self-conception of farm-reared boys. This normal self-conception may be abandoned if the boy has an unusually self-reliant and inquisitive personality, if his parents are deviants in that they want him to be mobile, or if he perceives farming as inaccessible. If he develops a self-conception of non-farmer he will tend to utilize the information available in the area to develop the higher levels of aspiration needed for successfully entering urban work; if his self-conception remains that of farmer he will tend not to utilize the information. Thus those wishing to increase the levels of occupational achievement of farm-reared youth should attempt to modify the boy's expectation that he will be a farmer.

The findings may be useful for agriculture in other urban-industrial societies and, with modifications, in other types of societies. But before this conclusion is reached, the explanation should be retested.

The author is associate professor of sociology and anthropology, Michigan State University.*

ONE of the great problems of our age concerns the remolding of agricultural populations into effective urban work forces. Most European

*Journal article no. 2472 of the Michigan State University Agr. Expt. Sta. This is a revision of a paper presented at the Fourth World Congress of Sociology, Milan and Stressa, Italy, September, 1959. In part, the research reported herein was performed pursuant to a contract with the U. S. Office of Education, Dept. of Health, Education, and Welfare. The writer wishes to acknowledge the invaluable aid of I. W. Miller and the MSU computer and tabulating services, as well as the cooperation of the Lenawee County school officials.

nations have confronted this problem and still confront it to some degree even today. The problem is even more important for the economically deprived nations now trying to increase their productive capacity. Altogether, the problem involves drastic shifts in the typical life orientations of many millions of people. Given a change of such magnitude, it is to be expected that the sociologist would have at his command a large amount of verified knowledge concerning the social and psychological conditions under which rural youth enter the urban occupational world. In fact, however, such data appear to be limited. There appear to be no published quantitative sociological or social psychological analyses of differential levels of occupational achievement among rural people moving into cities outside of the West, and there are only a few such even in the West. For the most part even these tell us only that the farm-reared person tends to enter the urban labor force at a low level and to stay there.[1] Almost none of these data provide sociological explanations for the phenomenon they describe, but there are exceptions.

Lipset has tried to provide an explanation for the low occupational levels of the rural people in his sample of persons employed in the San Francisco Bay area of the United States. He notes the general lack of educational facilities and limited occupational differentiation in rural areas, and argues that these restrict the rural youth's range of knowledge, thus resulting in low levels of educational and occupational aspiration. It is the low levels of aspiration which he believes produce the low levels of achievement which he and others have observed. Unfortunately Lipset provides no data for the details of his argument.[2]

Recently, social psychologists at the University of Wisconsin and Michigan State University have attempted to state Lipset's explanation in testable form and to employ it if possible among farm people of the industrial North Central region of the United States. The resulting studies have been conducted mostly among farm and nonfarm people in the rural hinterland of our great industrial centers of Milwaukee and Detroit, sites which were chosen so as to learn about the

[1]Otto Ammon, *Die Gesellschaftordnung und ihre natürlichen Grundlagen* (Jena: Verlag von Gustav Fischer, 1895), p. 145. See also Pitirim Sorokin, *Social Mobility* (New York: Harper, 1927), p. 144 ff. and p. 451, and Pitirim A. Sorokin, Carle C. Zimmerman, and Charles C. Galpin, *A Systematic Source Book in Rural Sociology*, III (Minneapolis: University of Minnesota Press, 1932), p. 531; Howard W. Beers and Catherine Heflin, *Rural People in the City* (University of Kentucky Agr. Expt. Sta. Bull. 478; Lexington, 1945); Gunnar Boalt, "Social Mobility in Stockholm," *Transactions of the Second World Congress of Sociology* II (London: International Sociological Association, 1954), pp. 67–73; Seymour Martin Lipset, "Social Mobility and Urbanization," *Rural Sociology*, 20 (1955), 220–228; Ronald Freedman and Deborah Freedman, "Farm-Reared Elements in the Nonfarm Population," *Rural Sociology*, 21 (1956), 50–61.

[2]Lipset, *op. cit.*

occupational behavior of farm-reared youth who live within the zone of influence of some of the most highly urbanized areas of the world.[3] Naturally this restriction prohibits immediate generalization to societies in other stages of industrialization, but the studies still may help us guess what may be in store for some of these societies in the future. One of these, a longitudinal study, shows one segment of Lipset's explanation to be at least partly correct. Levels of educational and occupational aspiration are positively correlated with levels of educational and occupational achievement.[4] But other studies show that the main part of his explanation, holding that the limited educational and occupational alternatives supposedly characterizing rural society result in low levels of aspiration for the rural youth, does not hold at all in the test areas. In Wisconsin in 1948, the main apparent relation of farm residence to levels of educational aspiration has been shown to be mostly due to the presence among the farm-reared of a large group who plan to farm.[5] Essentially the same phenomenon has been noted in a Detroit area test site where the presence among the farm-reared of a large group who plan to farm accounts for all of the apparent relation of farm residence to levels of occupational aspiration.[6] Research has shown this relationship to be more complex than had been thought. For this reason, it has become evident that a detailed analysis is needed of the relation of farm plans, personality, and social structural influences on levels of educational and occupational aspiration. Such an analysis should tell us the points in the personality system or social system where changes may be most effectively inserted.

The purpose of this paper is to show the results of an exploratory study which may provide the needed empirically accurate explanation. More precisely, it is the purpose of this paper to present a plausible explanation for the influence of farm plans on levels of educational and occupational aspiration which can also account for the development of the farm plan itself. Since this explanation is for the most part inferred from data rather than derived directly from theory, it

[3]A. O. Haller, "The Influence of Planning to Enter Farming on Plans to Attend College," *Rural Sociology*, 22 (1957), 137–144; A. O. Haller, "Research Problems on the Occupational Achievement Levels of Farm-Reared People," *Rural Sociology*, 23 (1958), 355–362; A. O. Haller and W. H. Sewell, "Farm Residence and Levels of Educational and Occupational Aspiration," *American Journal of Sociology*, 62 (1957), 407–411.

[4]William H. Sewell and A. O. Haller, unpublished data on file at the University of Wisconsin Department of Rural Sociology.

[5]One study (Haller and Sewell, *op. cit.*) shows that there is no significant difference in the levels of educational aspiration of nonfarm boys and farm boys who do not plan to farm. Another (A. O. Haller, "The Influence of Planning to Enter Farming on Plans to Attend College," *loc. cit.*) shows that among farm boys, levels of educational aspiration are significantly associated with plans regarding farming.

[6]A. O. Haller, "Research Problems on the Occupational Achievement Levels of Farm-Reared People," *loc. cit.*

must be considered tentative. In any case, it applies only to the relatively literate rural people of highly urbanized industrial areas. Clearly, then, it needs to be tested under similar conditions elsewhere, and to be reformulated for use in economically deprived societies.

DATA

Subjects and site: Data for the study were provided by the 109 seventeen-year-old farm boys in school in Lenawee County, Michigan, during the spring of 1957. These boys constitute about 70 per cent of the total age group. The others were no longer in school, but it is doubtful that their absence changes the conclusions substantially. Lenawee County is rich in agriculture and in light industry. Its farmers are independent operators, specializing in dairying, corn raising, beef-feeding, and the like, for sale on the national and international market. Many of them, about one-half of the fathers of the boys in the present sample, have nonfarm occupations in addition to their farmwork. The geographic, administrative, and trade center of the county is a city of 20,000 residents; in addition, the county contains a few satellite villages and towns. The farm, rural nonfarm, and urban populations are approximately equal in number. The county has a full range of American social class levels, including a few wealthy families, a number of families of professionals as well as the families of clerical, skilled and semi-skilled workers, and of course a number of farm families. There are four universities and some smaller colleges within the county or nearby, and excellent highways provide ready access to them from all points in the county. Moreover, it has full coverage by means of radio, television, and newspapers. It was this set of factors, plus the proximity of Detroit's complex occupational structure and its own diversified occupational structure, which dictated the selection of Lenawee County as the research site. This provides an environment for youth which, though agricultural, is nevertheless rich in its potential for imparting to them the detailed knowledge of the urban-industrial occupational world which Lipset believes produces high levels of educational and occupational aspiration.

Data: The data consist of school records and responses to standardized tests and questionnaires administered by trained social psychologists and filled out by the students in school.

The *Occupational Aspiration Scale* (OAS) is a multiple-item forced-choice instrument designed to measure the youth's general social prestige level of occupational aspiration.[7] It is based on the NORC study

[7] A. O. Haller, *Occupational Aspiration Scale* (East Lansing: Michigan State University, 1957). This and all other test instruments and coding keys used in the paper, as well as copies of publications and papers based on the same general data, are available on interlibrary loan from the Michigan State University Library using the following citation: A. O. Haller, comp., *Basic Data For the Lenawee County Project*

of prestige of occupations in the United States[8] and has a range of 0 to 72 points, with a median of 35 points. The *16 P-F Test* (16 P-F T) is an instrument designed to measure the sixteen orthogonal dimensions of personality which have been derived empirically by R. B. Cattell and his co-workers.[9] The *MSU Work Belief Check-List* (WBC-L) is still another instrument used.[10] It is designed to measure six different areas of belief, each of which has been hypothesized as affecting ability to adapt successfully to the conditions of urban economic life. They include such areas as attitude toward change and attitude toward migrating. The *Test of G-Culture Free* (CFIQT), a measure of general intelligence, is another form used.[11] It is used to measure the reasoning ability presumably necessary for adequate performance in urban-industrial society. Pretested questionnaires, called *Occupational Plans of Michigan Youth* (OPMY) and *Educational Needs of Farm Boys* (ENFB) were used to elicit information about the youths' future plans, their beliefs about education, family, attitudes, background, and related matters.[12] The final datum, scholastic achievement level, is measured by grades in school in 1956–1957, and was taken from school records.

Method: This study is intended to derive new hypotheses to replace the previous ones which have been found to be inadequate. For this reason, it uses methods of exploration rather than derivation and tests of hypotheses. In general, the method is to compare personalities, social contexts, and educational and occupational orientations of those who plan to farm with those who do not plan to farm. Standard two-tailed tests of significance are used to decide whether or not those who plan to farm differ from those who do not. This procedure yields two groups of variables, those related to the plan regarding farming and those not related to it. The final tentative explanation for the relation of planning to farm to low levels of educational and occupational aspiration and for differential plans regarding farming is an interpretation of the variables found to be related and unrelated to plans regarding farming.

in Social Structure and Personality (unpublished). Also see I. W. Miller, Jr., "Normalized Data for the O.A.S. Raw Scores" (East Lansing: Social Research Service, Michigan State University, Apr., 1958 [mimeo.]).

[8]National Opinion Research Center, "Jobs and Occupation: A Popular Evaluation," *Opinion News* (September, 1947), pp. 3–13.

[9]R. B. Cattell, *The 16 P. F. Test, Form B* (Champaign, Ill.: Institute for Personality and Ability Testing, 1950).

[10]A. O. Haller, *The MSU Work Beliefs Check-List* (East Lansing: Department of Sociology and Anthropology, Michigan State University, 1957).

[11]R. B. Cattell and A. K. S. Cattell, *Test of G–Culture Free-Scale 3A* (Champaign, Ill.: Institute for Personality and Ability Testing, 1950).

[12]The first of these questionaires includes a socioeconomic status scale which is a slight modification of W. H. Sewell, "A Short Form of the Farm Family Socio-Economic Status Scale," *Rural Sociology*, 8 (1943), 161–170.

RESULTS

Summaries of the statistical analysis are presented as follows. As the section called *Personality Variables and Plans Regarding Farming as a Vocation* indicates, the Lenawee County farm boy who plans to farm tends to lack ego strength and to be emotionally unstable, to be withdrawn or shy and timid, to lack resolution, and to lack will control and character stability. On the other hand, the boy who does not plan to farm tends to be emotionally stable, to be adventurously resilient, to be independent or self-sufficient, and to have firm will control and character stability. None of the other personality factors significantly discriminate between those who do and do not plan to farm.

PERSONALITY VARIABLES AND PLANS REGARDING FARMING AS A VOCATION*

Related

Emotional stability or ego strength (NF) *versus* dissatisfied emotionality (F). *16 P-F T.*

Adventurous autonomic resilience (NF) *versus* inherent withdrawn schizothymia (F). *16 P-F T.*

Independent self-sufficiency (NF) *versus* lack of resolution (F). *16 P-F T.*

Will control and character stability (NF) *versus* lack of will control and character stability (F). *16 P-F T.*

Not Related

Cyclothymia *versus* schizothymia. *16 P-F T.*
Dominance or ascendance *versus* submission. *16 P-F T.*
Surgency *versus* desurgency, or depressive anxiety. *16 P-F T.*
Character or super-ego strength *versus* lack of internal standards. *16 P-F T.*
Emotional sensitivity *versus* tough maturity. *16 P-F T.*
Paranoid schizothymia *versus* trustful altruism. *16 P-F T.*
Hysteric unconcern *versus* practical concernedness. *16 P-F T.*
Sophistication *versus* rough simplicity. *16 P-F T.*
Anxious insecurity *versus* placid self-confidence. *16 P-F T.*
Radicalism *versus* conservatism. *16 P-F T.*
Nervous tension *versus* lack of nervous tension. *16 P-F T.*
General intelligence. *CFIQT.*

*(NF): Characteristic of boys not planning to farm. (F): Characteristic of boys planning to farm. Other abbreviations are identified in the text.

These data appear to show that the average Lenawee County youth who plans to farm is one who lacks self-control and is either disinterested in people or is afraid of them, while the youth who plans to leave farming is confident of himself and of his relations with others,

and is actively interested in people and things outside himself. This suggests that the one who plans to leave farming is most capable of adapting to new situations and new people.

The section called *Social Context Variables and Plans Regarding Farming as a Vocation* is concerned with differences in the social situations of those who do and do not plan to farm. The parents of the boys who plan to farm tend to have relatively low levels of college or university educational aspiration as well as low levels of occupational aspiration for them. In addition, those who plan to farm tend to be members of small (three siblings or less) families. The other social context variables tested—family socioeconomic status, father's education, father's occupational prestige position (many fathers have more than one occupation), whether or not the family owns the farm, and the occupational prestige position of the fathers of the subjects' best friends—are not related to the plan regarding farming.

SOCIAL CONTEXT VARIABLES AND PLANS REGARDING FARMING AS A VOCATION

Related

Parental levels of educational aspiration for the youth "high" (NF) *versus* "low" (F). *OPMY.*

Parental levels of occupational aspiration for the youth "high" (NF) *versus* "low" (F). *OPMY.*

Sib group size "small" (F) *versus* "large" (NF). *OPMY.*

Not Related

Family's socioeconomic status (consumption level scale scores) "high" *versus* "low." *OPMY.*

Paternal occupational prestige status "high" *versus* "low". *OPMY.*

Family's farm tenancy status owner *versus* renter. *OPMY.*

Best friends' fathers' occupational prestige status "high" *versus* "low." *OPMY.*

Thus the data show that of all Lenawee County farm youth, those most likely to choose to leave farming are the ones whose parents hope to see them become relatively well educated and to see them enter relatively high-level occupations. Those planning to farm are the opposite. The data regarding family size and farm plans are probably a reflection of the greater accessibility of a farm to persons perceiving themselves as having fewer competitors for it.

The last section to be examined concerns *Educational and Occupational Orientation Variables and Plans Regarding Farming as a Vocation.* The data show that boys planning to farm tend to view change as undesirable, to be wholly committed to farming as their one vocational choice, to have low levels of college or university educational aspiration, to have low general social prestige levels of occupational aspiration, to

believe that college or university training is not needed by farm boys who do not plan to farm, and to have taken relatively more course work in agriculture. Conversely, those who do not plan to farm tend to think of change as a good thing, to be less committed to any one vocational choice (thus being psychologically prepared to utilize different opportunities), to have high levels of college or university educational aspiration, to have high general social prestige levels of occupational aspiration, to believe that college or university training is needed by farm boys who do not plan to farm, and to take less course work in agriculture (and, of course, more in other areas).

EDUCATIONAL AND OCCUPATIONAL ORIENTATION VARIABLES AND PLANS REGARDING FARMING AS A VOCATION

Related

Evaluation of change positive (NF) *versus* negative (F). *WBC-L.*
Degree of commitment to a particular vocational choice "high" (F) *versus* "low" (NF). *OPMY.*
Level of college or university educational aspiration "high" (NF) *versus* "low" (F). *OPMY.*
Level of nonfarm occupational aspiration "high" (NF) *versus* "low" (F). *OPMY.*
Belief that college or university training is needed (NF) *versus* not needed (F) by boys not planning to farm. *ENFB.*
Number of agriculture courses completed in high school "few" (NF) *versus* "many" (F). *School records.*

Not Related

Orientation to work instrumental *versus* expressive. *WBC-L.*
Evaluation of punctuality positive *versus* negative. *WBC-L.*
Attitude toward migrating positive *versus* negative. *WBC-L.*
Belief that events are determined by external *versus* internal forces. *WBC-L.*
Attitude toward deferring gratification positive *versus* negative. *WBC-L.*
Belief that college or university training is needed *versus* not needed by boys planning to farm. *ENFB.*
Performance in school subjects "good" *versus* "poor." *School records.*

The two groups do not differ on the degree to which they believe work serves expressive rather than purely instrumental purposes, on evaluation of punctuality, on attitude toward migrating, on the belief that forces external to the self determine the course of events, on their attitudes toward deferring gratification,[13] on the degree to which they

[13]Sverre Lysgaard, "Social Stratification and the Deferred Gratification Pattern," *Transactions of the Second World Congress of Sociology*, pp. 364–377.

believe that college or university training is needed by farm boys who plan to be farmers, and on the adequacy of their performance in school subjects.

These data thus appear to show that the boy who plans to farm tends to have beliefs and aspirations which are not well suited to success in pursuits other than farming. The boy who plans to leave farming tends to have the opposite characteristics. Of special importance to the ensuing discussion is the fact that the two groups do not differ regarding the amount of college or university education believed to be necessary for boys planning to farm; they agree that he does not need much. But they differ regarding the amount of college or university education believed to be necessary for boys *not* planning to farm.[14]

INTERPRETATION

The objective of this paper is to explore differences among farm boys who do and do not plan to farm in a rich agricultural area in the hinterland of the Detroit urban-industrial area, so as to formulate a tentative explanation for the low levels of nonfarm occupational aspiration of farm-reared people. In turn, this explanation may be coupled with the known relationship between level of occupational and educational aspiration and levels of occupational achievement of farm-reared boys. In a few words, the interpretation proposed depends upon the effective environment of farm boys, their differential reactions to it, the occupational self-conceptions which result from this, and the information-seeking behaviors which result from their self-conceptions.

The effective environment: Despite full coverage by the mass media, despite the proximity of the urban-industrial area, and despite the adequacy of the schools, most farm people appear to be more nearly oriented to life-styles and beliefs relevant to agriculture than to other ways of life. The farm-reared boy is therefore reared in an effective environment which tends not to utilize the information available about the urban world of work. The belief that change is of doubtful value and the belief that boys who do not plan to farm need little college or university training are cases in point. Straus makes a similar observation among Washington farm boys: those who plan to farm have values functionally useful to farming. These may or may not be useful in the nonfarm world.[15] It appears, then, that farm people tend not to be aware of the objective requirements of the nonfarm world of work. Yet these are the people who usually provide the effective learning environments for the farm youth. They are the people whose

[14]See I. W. Miller, "Educational Beliefs and Educational Aspirations of Farm Youth" (East Lansing: Social Research Service, Michigan State University, Oct., 1958 [mimeo.]).

[15]Murray A. Straus, "Personal Characteristics and Functional Needs in the Choice of Farming as an Occupation," *Rural Sociology*, 21 (1956), 257–266.

opinions he trusts. The normal case is to be like those upon whom one depends. If one's reference groups are satisfied farmers, he will conceive of himself as a farmer-to-be; that is, he will plan to be a farmer. But if he does, he will exhibit the other characteristics typical of his reference groups, including a relatively low awareness of nonfarm occupational requirements.

Differential reactions to the effective environment: The person who must be accounted for is the one who does not plan to farm. The data suggest three kinds of things which may result in planning not to farm: (1) the development of an unusually well-controlled, independent, and inquisitive personality, probably as a consequence of early training; (2) being a son of parents who are more oriented toward the nonfarm world than is usual; (3) perceiving farming as being an unattainable occupation. The personality data in this study clearly support the first of these points, and data from another source corroborate part of it: Ramsey's study among Wisconsin farm boys shows a personality variable called "self-reliance" to be related to planning not to farm.[16] The third point is not so clearly supported by these data. But it is highly plausible, and the one bit of inferential evidence available is consistent with it: the fewer the number of siblings who could be competitors for the family farm, the greater the probability that the youth will plan to enter farming. This is a relatively accurate assessment of a highly competitive situation. Farms can be bought, but their cost in Lenawee County is many thousands of dollars, so inheritance is the most likely way of gaining one. Moreover, the number of sons of farmers greatly exceeds the number of farms available, even including those that may be rented.

Occupational self-conceptions: Probably the early expectation of most farm boys is that they will be farmers someday. Since their early vocational self-conceptions appear to be dependent upon what is presented to them in the effective environment, and since in occupations this is nearly exclusively farming, it is to be expected that in so far as they have any occupational self-conception at all, it will be that of the farmer. That is, the farm boy who has no stimulus to grow away from farming maintains and probably strengthens his initial self-concept of farmer-to-be. On the other hand, as time goes on, those who are unusually self-reliant and inquisitive begin to utilize more and more of the occupational information generally available, depending more and more on reference groups beyond the family, and thus begin to perceive new occupational alternatives. Others, those whose parents want them to be more successful than is possible in farming,

[16]Charles E. Ramsey, "Vocational Intentions of Wisconsin Farm Boys" (Doctoral dissertation, University of Wisconsin, 1952).

are consciously trained to look to the nonfarm world for their occupations. Still others begin to look to nonfarm occupations because they believe farming is not accessible to them. The outcome of all three of these is the development of self-conception as nonfarmer.

Information-seeking behaviors: In contrast to the effective environment of farm youth, the general environment in Lenawee County is saturated with information relevant for learning about the requirements of the urban-industrial occupational world. All of the boys in the sample have been exposed to this information in the schools, in Detroit, and in the county's towns and cities. Yet only some of the boys use it. The occupational self-conception appears to be the central factor which determines the extent to which the available information is utilized to raise levels of educational and occupational aspiration. That is, the emerging nonfarm occupational self-conception cannot be actualized without changes in other orientations to the world of work. When a boy plans not to farm he is therefore more attentive to the requirements for success in the nonfarm world. This accounts for the higher levels of educational and occupational aspiration and for the readiness to utilize opportunities (occupational flexibility) characteristic of those not planning to farm, as well as the more obvious tendency for them to take fewer agricultural courses in school. On the other hand, the boys who see themselves as farmers-to-be simply are not attentive to the available information about the requirements for success in the nonfarm occupational world. This accounts for their generally lower levels of aspiration and for their occupational inflexibility. This is most strikingly shown by the data on beliefs about education needed for farming and for nonfarmers. Boys who plan not to farm tend to believe that all who plan not to farm need higher education, and boys who plan to farm deny it; yet both groups believe that college or university training is not needed for boys who plan to farm. Clearly, the occupational importance of higher education is more apparent to those who are least identified with farming.

For these reasons, it is hypothesized that the one who plans not to farm is, by virtue of his occupational self-conception, more highly motivated to seek out information which will enable him to be a success in the nonfarm occupational world.

SUMMARY AND CONCLUSIONS

Previous research has shown that farm-reared people tend not to be successful in the urban-industrial occupational world. It has also been shown previously that levels of educational and occupational achievement are positively correlated with levels of educational and occupational aspiration. It has been speculated, therefore, that farm people

tend to have lower levels of educational and occupational aspiration owing, presumably, to the lack of information available in most areas. Other previous papers have shown that in the industrial North of the United States the crucial variable is the plan to farm, for all of the apparent relationship of farm residence to low levels of aspiration is accounted for by farm plans.

The present paper has attempted to explore data on farm boys in a rich agricultural and light-industrial county near Detroit in the hope of formulating an explanation for the influence of planning to farm on low levels of aspiration, and the development of the plan to farm itself. This plan, interpreted as a self-conception influencing the learning of available occupational information, is the pivotal element in the proposed explanation. Since farms are available to only a fraction of those who plan to farm, it follows that many will have to take nonfarm work. If they do not change their plans before marriage and family intervene, they will undoubtedly enter and remain in the lower levels of the nonfarm occupational world.

If this analysis is correct, and if it is not restricted to the United States, the urban-industrial society which wishes to make fullest effective use of, and give the greatest personal satisfaction to, its excess farm youth will be well advised to develop occupational counseling techniques specifically designed to rearrange their normal occupational self-concepts. Such counseling measures should be directed particularly at those farm boys who unrealistically plan to be farmers. Their main aim should be to make the youth somewhat doubtful of the possibility of entering farming—that is, to prevent the development of an inflexible self-conception of farmer-to-be. A change in the self-conception should be sufficient to activate the information-seeking tendencies in the person, thus resulting in increased levels of educational and occupational aspiration.

The quasi-experimental conditions which dictated the selection of Lenawee County are believed to be quite generally relevant for agriculture in other urban-industrial societies. Nevertheless, we cannot be sure that this is true. Moreover, the study is exploratory, yielding hypotheses derived out of data, rather than tested hypotheses. For these reasons the conclusions are tentative. The explanation proposed should be retested under similar conditions in other areas. Also, studies should be undertaken to test the explanation's efficiency in predicting occupational achievement. And, since the explanation concerns the development of occupational self-concepts, it follows that longitudinal research specifically designed to study the development of occupational self-concepts should be undertaken. In the meantime, experiments in changing occupational self-concepts should be undertaken to see whether in fact they result in the predicted changes in

information-seeking behaviors. Finally, this tentative explanation is intended for use among literate farm people of urban-industrial societies. In its present form it probably does not apply to the people of peasant societies. Nevertheless, it may be useful to explore the possibility that differential self-conceptions influence the utilization of occupational information among agricultural people of societies now undergoing industrialization. If self-conceptions are found to perform a similar motivational function under these conditions, it may be that techniques designed to change them can help such societies to develop effective labor forces. Also, it may well be that Lipset's hypothesis is valid in less highly industrialized economies.[17] Naturally, it is entirely possible that the factors in his explanation and those in the explanation presented here may operate together under some circumstances.

[17]In fact, it has been found that even in Florida, which is certainly not an undeveloped area, Lipset's explanation appears to be more nearly valid than our research shows it to be. See Russell Middleton and Charles M. Grigg, "Rural-Urban Differences in Aspirations," *Rural Sociology*, 24 (1959), 347–354.

SELZ C. MAYO

An Analysis of the Organizational Role of the Teacher of Vocational Agriculture

Vocational agriculture has become an important educational program for rural high school boys and for adult farmers. The major purpose of this study was to examine the position of teacher of vocational agriculture in terms of the source, direction, and intensity of expectations relative to developing and sustaining formal organizations through which educational objectives are attained, and to examine the position in relation to the correspondence of role behavior and these expectations.

The organizational work system of the teacher of vocational agriculture may be analyzed into three phases. During the four decades since the passage of the Smith-Hughes Act, two formal organizations have become a part of the traditional work system—one for the in-school group and one for the out-of-school group. The organizational work system is expanding, but the intensity of these expectations is highly variable from the national level down through the local level. Finally, many vo-ag teachers are developing new images of the educational potential of many agricultural organizations. There is evidence of considerable role conflict resulting from the changing work system.

The author is professor of rural sociology, North Carolina State College.

THE general purposes of this paper are: (1) to examine the position of the teacher of vocational agriculture in terms of the source, direction, and intensity of expectations relative to developing and sustaining formal organizations through which educational objectives are attained; (2) to examine the position of the correspondence of role behavior to role expectations; (3) to examine the changing role of vo-ag teachers in relation to the increasing number of formal organizations in the rural community; and (4) to examine an area of conflict in the self-perception of teachers concerning the applicability of approaches in attaining educational objectives.

In analyzing the organizational role of the vo-ag teacher, the theoretical schema employed was similar to the one developed by Gross, et al., in their study of the school superintendency. Four of these concepts are basic to this analysis and their definitions of these concepts are the following:

A *position* is the location of an actor or class of actors in a system of social relationships.

An *expectation* is an evaluative standard applied to an incumbent of a position.

A *role* is a set of expectations applied to an incumbent of a particular position.

A *role behavior* is an actual performance of an incumbent of a position which can be referred to an expectation for an incumbent of that position.[1]

The focal position in this analysis is the teacher of vocational agriculture in the secondary public schools. Role behavior analysis is confined to a limited field study among teachers in North Carolina. The study is further limited in that only formal organizations within local communities are considered; relationship of teachers to county, state, and national organizations have been excluded.

SCOPE OF VOCATIONAL AGRICULTURE

Vocational agriculture is one of the major rural life programs in the United States. The Smith-Hughes Act of 1917 and the supplementary George-Barden Act of 1946 established the broad educational policy and financial arrangements for the development of vocational agriculture on a national basis in the United States. The Smith-Hughes Act established the general objectives as well as state-federal co-operative arrangements which are still in operation more than four decades after its passage.

There is a program in each of the forty-eight states of the continental United States, and there is considerable activity in the two newest states as well as in several territories. On June 30, 1958, there were 11,073 teachers of vocational agriculture employed in the 48 states, Hawaii, and Puerto Rico. Within the 48 states, the number of teachers employed ranged from only ten in Rhode Island to 1,149 in Texas. At the same time, there were 633 teachers employed in North Carolina.[2]

[1]Neal Gross et al., *Explorations in Role Analysis* (New York: Wiley, 1958), esp. pp. 48–69.

[2]W. T. Spanton, *Statistical Summary of Agricultural Teacher Training Reports for 1957–58* (Washington: Office of Education, 1959); and *Digest of Annual Reports of State Boards of Vocational Education* (Washington: Office of Education, fiscal year ending June 30, 1957).

THE STUDY

The data for this study have been derived from three major sources.

Personal observation: During the past six years, the author has been engaged in a co-operative teaching program with seniors doing their student teaching in vocational agriculture. This arrangement has afforded extensive and many intensive observations from which analyses of local programs have been possible.[3]

Secondary sources: A great many secondary materials have been reviewed not only for this study but also in connection with the broader aspects of the teaching program. This necessitated the examination of journals and books, but it also made necessary a review of the federal laws, rules, and regulations as well as those in force at the state level, especially those pertaining to North Carolina. Also, the Vo-Ag Research Committee of the Southern Region published an important study in 1956.[4] This report contains some excellent materials for role analysis.

Field study: During the winter of 1958–1959, a field study was conducted among 26 teachers of vo-ag in North Carolina. There were 53 seniors doing their student teaching in 26 centers, and the resident supervising teachers formed the population for this study. The teachers included in the study are not necessarily a representative sample of the 633 vo-ag instructors in the state.

THE ORGANIZATIONAL WORK SYSTEM

Teachers of vocational agriculture spend a great deal of time working with and through formal organizations. One of the questions asked these teachers was: what percentage of your professional time is devoted to organizational activities excluding classroom work with all-day students? These teachers estimated that between a fourth and a third of their time is devoted to such activities; the range was from an estimate of 10 per cent by four teachers to 60 per cent by one teacher.

Vocational agriculture at the local level is undergoing some important changes, at least in North Carolina. And this is especially true in terms of the teachers' use of local formal organizations as media for promoting their programs in the local community.

The teachers studied were asked to respond to this question: have you made any major change in your vo-ag program during the past three years? All the teachers except one stated that they had made what they considered to be major changes in their program.

The 25 teachers giving this response listed and briefly described 51 major changes in their programs. It is quite significant that more than half of these changes were organizational changes—changes in either

[3] Selz C. Mayo, "Teaching Methods of Community Research to Nonsociology Majors," *Rural Sociology*, 23 (1958), 68–73.

[4] "What Constitutes an Effective Program of Vocational Agriculture in a Community" (Raleigh: Southern Regional Study Committee, October, 1956 [mimeo.]).

structure or functioning. Twenty of the teachers had also made what they considered major changes in the organizational structure or functioning within their work system.

THE TRADITIONAL ORGANIZATION PATTERN

During the four decades since the passage of the Smith-Hughes Act, two formal organizations have become a part of the traditional work system of teachers of vocational agriculture. One of these—Future Farmers of America or New Farmers of America—has been developed to supplement the work of the in-school group of high school students. The second of these—the adult class or some variation—has been the traditional means of carrying out organized instruction among adult farmers. Neither of these organizational structures was necessarily anticipated by the act of 1917, but the role of the teacher in relation to the youth organization was specifically recognized in the George-Barden Act of 1946. Each of these organizations is briefly discussed below.

The FFA organization at the national level has been defined and characterized in the following manner:

> Future Farmers of America is the national organization of, by, and for farm boys who are studying vocational agriculture in public secondary schools which operate under the provisions of the National Vocational Education Acts. It is an educational, non-profit, non-political farm boy organization of voluntary membership, designed to develop agricultural leadership, character, thrift, scholarship, cooperation, citizenship, and patriotism.
>
> Boys must be enrolled in vocational agriculture to become eligible for membership. They may retain their membership for three years following their graduation from high school, or until they are 21 years of age.[5]

Teachers of vo-ag are expected (normative) to develop local chapters of FFA or NFA. This expectation emerges from several sources. As indicated above, the George-Barden Act is stated in such language as to be termed permissive expectation. The administrative regulations of the Office of Education are somewhat more explicit, as is indicated by the following:

> Under the George-Barden Act, supervisory functions may include supervision by the vocational agriculture teachers of the activities related to vocational education in agriculture, of the Future Farmers of America and the New Farmers of America.
>
> The organization of State groups in this and other vocational fields is left to the determination of the State board.[6]

Role expectation is even more explicit in the regulations governing vo-ag in North Carolina, as the following shows:

> Since it is a definite responsibility of the teacher of vocational agriculture

[5] *FFA at 25* (Washington: Future Farmers of America, 1956).

[6] *Administration of Vocational Education, Rules and Regulations* (Washington: Office of Education, Bull. No. 1, General Series No. 1, Rev., 1958).

to promote, organize, and supervise the local chapter of the Future Farmers of America, a somewhat detailed exploration of this organization, what it is and what it does, is a logical part of this handbook.[7]

Expectations are quite explicit from other positions as well. District supervisors work with local teachers in developing and promoting FFA chapters. Training for effective chapter work is part of the activities of teacher training institutions; at North Carolina State College, for example, there is a formal course entitled "FFA in Vocational Agriculture." The catalogue description of the course is as follows: "Purposes of Future Farmers of America (FFA) in vocational agriculture. Relationship of FFA to supervised farming program. Developing leadership through FFA."

In terms of role behavior, each of the 26 teachers included in the field study was actively supervising FFA chapters. Membership in their respective FFA chapters corresponded in general to enrollment in vo-ag classes. Eighteen of these teachers reported the same number of students enrolled in classes as held memberships in FFA. The average membership in the 26 chapters was 69 boys, but the range was from 32 to 124.

There is a considerable lack of consensus even among teachers as to the central purpose and function of FFA in a vo-ag program. Through personal observations, it has been noted that some teachers stress the sponsored contests almost exclusively, others place major emphasis on the citizenship-leadership aspects, while a few make an all-out effort to use chapter activities to supplement the other phases of their vo-ag program.

Lack of consensus is not, however, confined to teachers themselves. This conclusion is substantiated by the data in the Southern Regional Study. In that study, six groups were asked to respond to a question relating to the place of FFA in a program of vo-ag. Three lay groups and three professional groups were included. These groups were:

In-school	Vo-ag teachers
Young farmers	Principals
Adult farmers	Superintendents

It is of considerable interest that there was a high degree of consensus among the three lay groups, as there was among the professional groups, but that there was a highly significant (statistically) difference between the responses of these two groups. A much smaller percentage of the lay group than of the professional group considered FFA an integral part of a vo-ag program.

Organized instruction through the medium of formal classes for adults is the second aspect of the traditional system. The generalized

[7] *Vocational Agricultural Education in North Carolina Public Schools* (Raleigh, N. C.: State Department of Public Instruction, Division of Vocational Education, Pub. No. 276, 1951).

form of this phase is that of a small group of farmers who "enroll" (that is, agree to meet) and attend a series of regularly scheduled meetings. These sessions are usually conducted by the vo-ag teacher or are under his direct supervision, and they are usually held at the school in the facilities provided for the vo-ag department. There are, of course, variations in the structure, one of the more popular being a "farmers club" with the usual set of officers and other structural elements of a formal organization. Teachers of vo-ag are expected to organize one or more classes for adult farmers. The rules and regulations governing an organized instructional program for adults are quite specific at both the federal and state levels.

Here, again, at the federal level, regulations set out by the Office of Education state what might be termed as a permissive expectation.

> Vocational education in agriculture under the State plan is to be designed to meet the needs of persons over 14 years of age who have entered upon or are preparing to enter upon the work of the farm or farm home.
>
> This training may be provided in: . . . Adult farmer classes for those who are improving their proficiency in farming.

According to the federal administrative regulations, the state plan must provide, among other things, for:

> Programs of sufficient duration to provide for the development of abilities and skills needed for success in farming: . . . programs for young and/or adult farmer classes to be provided for not less than 10 meetings and a total of not less than 20 clock hours of group instruction for each class during any one year.[8]

Much more explicit expectations are set forth in the North Carolina handbook of regulations governing the professional behavior of the local vo-ag teacher. In the discussion of the population for whom the teacher is responsible, the following statement stands out:

> Too much emphasis cannot be placed upon this fact: *The teacher of Vocational Agriculture has a responsibility for providing organized instruction for the out-of-school group equally as great as his responsibility for teaching high school students.*[9]

In the State handbook, no provision is made in terms of "if you organize"; rather the language is specific in terms of intense expectation that classes for adults will be organized and, furthermore,

> In organizing these classes, consideration should be given to the interests and needs of the group. Generally, the problems of this group are somewhat different from those of high school boys or young farmers. A careful analysis of the problems of adult farmers is essential in planning instruction. Definite improved practices are planned for individual farms and on-the-farm instruction given in carrying out these practices. This instruction requires home farm visits.[10]

[8] *Administration of Vocational Education, Rules and Regulations, op. cit.*
[9] *Vocational Agricultural Education in North Carolina Public Schools, op. cit.*
[10] *Ibid.*

Teachers are faced with role expectations relative to organized instruction for adults from other sources as well. District supervisors place varying degrees of emphasis on adult education in working with local teachers, and the same may be said with respect to high school principals. The Agricultural Education Department at North Carolina State College places high priority on training students for adult education—one approach being the organized class. This emphasis is exemplified by the fact that the catalogue carries two courses in the area of teaching adults. This area of work is especially stressed during the student teaching period.

Finally, in the Southern Regional Study there was a high degree of consensus among the six groups included that adults should be enrolled in vo-ag classes. There was not, however, complete consensus even among the teachers themselves. For example, about 10 per cent of the teachers felt that only high school boys should be enrolled in vocational agriculture.

Role behavior among the 26 teachers included in the field study corresponded very closely to role expectation as discussed above. Twenty-four of the teachers had developed classes for adult farmers. There was an average of 44 adult farmers enrolled per class, but the range was wide—from a low of 16 to a high of 101. During the year just preceding the survey, these teachers held an average of about 16 class meetings. Here, too, the range was wide—from 7 to 40 meetings in a year.

THE DEVELOPING ORGANIZATIONAL PATTERN

There are many changes occurring in vo-ag with respect to organizations within the work system of local teachers. The developing pattern as seen here assumes the continuation of the formal organizations included in the discussion above and, in addition to this, foresees the establishment of other formally organized groups in the work system. Three of these emergent and less highly developed structures have been selected for analysis: organized classes for young farmers, advisory councils, and decentralized classes in small locality groups within the school community.

Increasingly, vo-ag teachers are expected to develop a program of organized instruction, the minimum being a class, for young farmers in their communities. The term "young farmer" is defined in several ways but chronological age is the criterion most often used although limited experience in total decision making with respect to agricultural production may be given consideration. More generally, the term implies, at the lower limit, boys who have recently graduated from high school or who dropped out before graduating and young adults who are becoming established in farming, up to approximately thirty years of age.

At the federal level, permissive expectation is again indicated. Administrative rules of the Office of Education point out that the state

plan may provide for training in "young farmer classes for out-of-school youth who are establishing themselves in farming..." The North Carolina plan as set forth in the handbook of expected behavior for teachers of vo-ag is more specific with respect to organized instruction for young farmers. This is clearly shown in the following:

> During the period immediately following graduation from high school, young farmers are confronted with many real problems in becoming established in farming. An instructional program is needed to help young farmers solve these problems.[11]

The instructional program for young farmers usually takes the form of a class under the direction of the teacher, but sometimes the groups are organized as clubs with a regular set of officers. Classes are usually held at the high school in the facilities provided for the vo-ag department. From observations it would appear that there is considerably more recreation and fellowship associated with this group than is the case with the classes for older adults.

Data from the field study show that young farmer groups are slowly emerging but are not as universal as classes for older adults. Ten of these teachers have organized classes or clubs designed specifically for young farmers. Most of these have been developed quite recently, during the past two or three years. Some of them were developed around a nucleus of young men who were continuing their agricultural education on a voluntary basis after having completed their tenure in the Veterans Farmer Training Program. Four other teachers stated that they were in the process of establishing an organization of young farmers. Several other teachers were obviously quite conscious of role expectations as they were careful to point up that their young farmers were combined with their classes for adult farmers.

Among the ten teachers with separate organizations there were, on the average, 16 young farmers enrolled; the range was from 8 to 28. There was an average of about 15 meetings during the twelve months just preceding the survey; the range was from 7 to 27.

The second aspect of the developing organizational pattern is the establishing of advisory councils. This is not to imply that the advisory council idea is brand new, for Hamlin points out that "advisory councils and committees have been in sporadic use in agricultural education for at least 35 years."[12]

The rules and regulations of the Federal Office of Education under which the vo-ag program is administered make no mention of an organization such as an advisory council. Neither does the handbook of behavior expectations of teachers of vo-ag in North Carolina allude in any way to the establishing of such organizations. On the other hand, textbooks and journals in vo-ag place considerable emphasis on advisory

[11] *Ibid.*

[12] Herbert M. Hamlin, *Agricultural Education in Community Schools* (Danville, Ill.: Interstate Printing Co., 1949), p. 111.

councils. Varying degrees of expectation come especially from staff members of teacher training institutions. And the same may be said of the area or district supervisors and principals.

Nevertheless, a considerable number of teachers are developing advisory councils or some similar type organization. The most generalized form, at least in North Carolina, of this organization is characterized by a very limited number of outstanding farmers selected by the vo-ag teacher. These farmers agree to meet periodically with the teacher to assist him in setting very broad policy and to discuss common problems. Also, the teacher feels somewhat freer to seek the advice of these farmers on an individual basis.

There is, however, no clear-cut or generally recognized pattern for either the selection of the members or the functions such an organization is to perform. This lack of consensus is clearly borne out in the Southern Regional Study, and the same conclusion is reached through personal observations. Hamlin makes this lack of consensus quite clear in the following statement:

> Most teachers do not, however, yet know how to use advisory councils effectively. It is not their fault; they have not usually been educated to use them. Until a teacher knows their possibilities and definitely how to work with them, it may be best to avoid forming one.[13]

In the field study, 16 of the 26 teachers stated that they did work with advisory councils which they had developed. Most of these are of recent origin. The number of members ranged from 3 to 13, with an average of 7 members. The number of meetings per year ranged from one to 10 with an average of about 3. The qualitative data in the field study and personal observations indicate that some of these reported councils are more ideal than real. Other councils have been established very formally through an elaborate system of selection, legitimation in the hierarchical educational structure has been established, and there is a basic written document stating the functions of the council as well as the expected behavior of members in relation to the teacher.

The third and final phase of the developing organizational pattern within the work system is the establishing of young farmer and adult organizations within the smaller locality groups which comprise the school community. This is fundamentally a matter of decentralizing existing organizations. These smaller locality groups, somewhat analogous to the concept of the neighborhood, possess considerable social solidarity in many areas of North Carolina. A few of the teachers have done an extremely good job of mapping these ecological and socially meaningful units. This is especially true in those centers where student teachers have been placed for a number of years consecutively. In fact, locality group delineation is a part of the required work of student

[13] *Ibid.*, p. 132.

teachers in a rural sociology course that they take while doing their student teaching.

In one center, the teacher recently mapped thirteen locality groups within his school community. Class type organizations were developed in each of these locality groups. During the first year, participation increased tenfold as compared with participation in his centralized organization. Recognizing that all of these organizations could not be sustained in terms of the time available to devote to them, the teacher grouped the localities into five organizations. Even then, however, participation was more than five times greater than under the centralized approach.[14] Suffice it to say, this decentralized approach will receive a great deal of attention in the immediate future. This is, of course, an illustration of building a new role expectation for incumbents of social positions.

A NEW WORK SYSTEM POTENTIAL

The above analysis of the organization work system raises the question of the relationship of the teacher of vocational agriculture to the many other organizations within the school community. There is a great deal of evidence to support the contention that in the past vo-ag teachers have considered these organizations either as a part of a citizenship system or as media for developing and maintaining a public relations program. Many of the existing organizations are still considered in one or both of these lights. There are, however, a whole host of organizations within the school community which are now being perceived quite differently.

Many vo-ag teachers are developing new images of the educational potential of such agricultural organizations as the Grange, Farm Bureau, Ruritan, co-operatives, civic clubs (those with agricultural or rural-urban committees), and community development clubs.

It is contended here that such organizations are increasingly being perceived by teachers as a part of the work system potential in their communities. This perception is still in the embryonic stage and its full potential is grasped by a very small proportion of the teachers. Some of the more recently trained teachers are in the forefront of this new perception. At North Carolina State, this is one of the areas stressed with student teachers in the community analysis phase of their course in rural sociology. As a by-product, this work is having important effects on the supervising teacher. It is recognized, of course, that the relationship of vo-ag teacher to these organizations will necessarily be quite different from his relationship with those organizations within his direct work system.

[14]M. O. Phillips, "Developing a Pattern for Adult Education for the Coats Community" (Master's research problem, North Carolina State College, 1958).

In the field study, the 26 supervising teachers were asked this question: what organizations besides FFA and farmers classes do you have within the framework of your vo-ag program? Only six of the teachers gave a negative response of "none" to this question. Nine of the teachers considered the rural community development clubs as being a part of their work system.[15] In connection with these development clubs, the teachers usually attend the meetings and assist with programs and farm demonstrations.

Four teachers perceived the Ruritan clubs as being within the vo-ag framework, while four others stated that the local Granges fell within the scope of their work. A smaller number of teachers listed farm cooperatives, voluntary rural fire departments, chambers of commerce, and the more traditional civic clubs.

A second question was designed to explore further this changing perception of teachers toward these organizations: what organizations have you been instrumental in establishing during the past three years? Only two of the 26 teachers gave a reply of "none" to this question.

The responses of the other 24 teachers were divided into three classes of organizations: those of the traditional and developing work system as discussed above; those in the citizenship system such as teen-age clubs, Scouts, and church associations; and those classified as a part of the work system potential. It is of considerable significance that these 24 teachers had been instrumental in establishing 40 organizations that fell in this latter category.

A FUNDAMENTAL CONFLICT

Teachers of vocational agriculture are devoting a great deal of their professional time to organizational activities. The analysis above clearly indicates that these teachers are rapidly increasing the use of other than the traditonal organizations as instruments for achieving their educational objectives.

Historically, vo-ag teachers have been imbued with the educational philosophy which may be expressed in lay language thus: "Get out on the farm; that's the place to teach the boy as well as the farmer." This philosophy is exemplified in the North Carolina handbook in which the teacher is told that "most of this kind of learning takes place on the home farm."

During the school year the teacher spends a large part of his time in a classroom environment. Therefore, having a limited amount of time, these two educational philosophies are in conflict. The writer of this paper has spent a great deal of time in what is equivalent to a counseling situation, discussing with vo-ag teachers these conflicting philosophies. Many of them feel their programs are not meeting educational objectives. Many are hesitant to change their approach and, unfortu-

[15]Selz C. Mayo, "An Approach to the Understanding of Rural Community Development," *Social Forces*, XXXVII (1958), 95–101.

nately, many do not recognize this basic conflict. These observations led to the inclusion of two questions in the field study that might determine the extent of this basic conflict.

The individual approach was exemplified by the following statement: A vo-ag teacher should spend as much time as possible in working on the farm with his boys and adults and should spend as little time as possible in working with organizations. The teachers were asked to check one of four response categories ranging from strong agreement to strong disagreement. This was followed by a statement that embodied the organizational approach: Organizations are the best means available to the vo-ag teacher with which to bring about desirable agricultural changes in a community. Here, too, four response categories were provided ranging from strong agreement to strong disagreement, and the teacher was asked to check one response. The following results were obtained:

Organizational approach*	Individual approach*			
	Strongly agree	Agree in general	Disagree in general	Strongly disagree
Strongly agree	0	3	2	4
Agree in general	1	6	6	0
Disagree in general	1	1	1	0
Strongly disagree	0	0	0	0

*One teacher refused to answer both questions; perhaps this, too, is an indication of a basic conflict.

On the basis of the individual approach, these 25 teachers were split almost 50-50; that is, half the teachers agreed that this is the best approach while the other half disagreed with the individual approach. On the other hand, 22 of 25 teachers favored the organizational approach as the best means of bringing about agricultural change in a community.

Results obtained in the cross-classification demonstrate very clearly the basic conflict. Given these two philosophies as the only alternatives and assuming that each teacher believed in a specific approach, then there logically would have been no entries in either the upper left four cells or in the lower right four cells. Yet, there were 11 entries in these 8 cells—11 of 25 teachers.

Perhaps this demonstrated basic conflict should have been anticipated, for no occupation is impervious to change, least of all a professional occupation which deals with an area of life as dynamic as American agriculture.

Research Notes

A NOTE ON PERSONALITY VARIABLES IN DIFFUSION RESEARCH

THE subdivision of sociological research known as diffusion has proved to be a prolific area of study for rural sociologists in recent years.[1] The general approach to the problem has been similar to that followed by researchers working in the area of social participation—namely, delineating factors associated with the dependent variable. The factors utilized have been at varying levels of generality and include economic and sociological variables. Reseachers have been able in some studies to account for 50 per cent of the variance in the dependent variable. It has been stated that these studies are for the most part characterized by a dearth of sociological theory, with no systematic treatment of group values and personality traits in relation to the adoption of farm practices.[2]

A recent study by Rogers made use of conceptual variable analysis but was able to account for only 16 per cent of the variance.[3] More recently Rogers has attempted to correct the deficiency alluded to by Lionberger and examine the personality correlates of the adoption of technological change.[4] While one must respect the complexity of the task he has set for himself, his treatment of the concept personality is quite inadequate.

Lewin has stated that much of the confusion in the field of personality and, one might add, in the field of diffusion research, has been due to a failure to distinguish clearly two kinds of scientific language: the phenotypic language of data and the genotypic language of construct.[5]

One has only to examine the variables used by Rogers to observe the aforementioned problem. For example, change orientation is ostensibly a predisposition to change farm practices, and innovative proneness is also a predisposition to change farm practices. The concept of personality rigidity used by Rogers is defined as a resistance to accept change. It would appear that he is measuring both ends of the continuum. "A highly rigid individual," the reader is informed, "would tend to display a greater resistance to change,"

[1]Bibliography of research on: Social Factors in the Adoption of Farm Practices (North Central Rural Sociology Committee, 1956).

[2]Herbert F. Lionberger, "Present Status and Prospects of Research Relating to the Diffusion and use of New Farm Practices" (a paper read at the seminars for co-operators in the TVA agricultural research activities, Knoxville, Tennessee, 1958).

[3]E. M. Rogers, "A Conceptual Variable Analysis of Technological Change," *Rural Sociology*, 22 (1957).

[4]E. M. Rogers, "Personality Correlates of the Adoption of Technological Practices," *Rural Sociology*, 22 (1957).

[5]K. Lewin, "The Conflict between Aristotelian and Galileian Modes of Thought in Contemporary Psychology," *Journal of General Psychology*, 5 (1931).

while the individual characterized by a high degree of innovative proneness would display an interest in and a desire to seek out changes.

While Rogers limits these variables to a consideration of change with respect to farm practices (a phenotypic variable), there would seem to be present another variable which confounds his findings. This is the nature of the change which is contemplated by the farmer. Certain innovations or farm practices are closely related to farm practices currently in use. The suggestion has been made that these differences be compensated for in the adoption scale by a method of weighting.

The question also arises, in what way do these variables relate to any basic personality structure? They are, to be sure, attitudinal scales. One is forced to concur with Krech who stated: "So much of the work seems to be based on the assumption that all one needs to have is some sort of measuring instrument and that one can then apply this measuring instrument to any group of people and proceed to measure beliefs and attitudes. This strange position reflects the naive operational notion, sometimes explicitly and sometimes implicitly stated that an attitude is an opinion which an attitude test measures."[6]

The treatment of knowledge of specific details of given farm practices as a personality variable is equally bewildering. The acceptance of any definition of personality extant in the literature would not lead one to recognize knowledge as a personality variable.[7]

There appears to be a growing appreciation, as evidenced by personality research, of cultural and situational forces.[8] These writers have certainly established that personality, both in current functioning and in its formation and course, must be related to cultural and environmental determiners. There is an increasing preoccupation with such social and institutional determinants of personality as culture, social class structure, group membership, social role, and the like.

The suggestion is made by some writers that, given the emphasis suggested above, personality may disappear. In any event, it would seem reasonable to suggest that sociologists concern themselves with conceptual variables which relate to sociological dimensions capable of being utilized in systematic theories.

JOHN HARP

Department of Economics and Sociology
Iowa State College

[6]David Krech, "Condition and Motivation in Psychological Theory," in *Current Trends in Psychological Theory* (Pittsburgh: University of Pittsburgh Press, 1951).

[7]D. W. MacKinnon and A. H. Maslow, "Personality," in *Theoretical Foundations of Psychology* (New York: Van Nostrand, 1951).

[8]G. W. Allport and P. E. Vernon, *A Study of Values* (Boston: Houghton Mifflin, 1931); and L. A. White, "Personality and Culture," in *The Open Court*, vol. 39 (1925).

OBSTACLES TO CHANGE FOR THE LOW-INCOME FARMER*

THERE is general agreement that some types of low-income situations are not a function of general economic conditions and thus will not share in

*Journal series paper no. 2426 (Pennsylvania Agricultural Experiment Station).

improvement of the total economy. In dealing with a particular low-income situation, however, it is often an open question whether economic or non-economic factors are of major importance. Low-income conditions in agriculture have been treated largely in economic terms. This is less true with reference to the South, particularly the hill and mountain areas, than it is for other regions.[1] The fact that low income has become a chronic condition in a number of farm areas, in spite of extensive and expensive efforts at improvement, suggests that economic factors alone are not sufficient to account for the phenomenon even in much less isolated areas in a predominantly urban state such as Pennsylvania. The data analyzed in this paper can be added to a growing body of evidence that some low-income farmers can be expected to respond poorly to education and action programs which emphasize an aggressive commercial approach to agriculture.[2] In fact, it will be argued that maximizing the benefits obtainable from subsistence farming may be more meaningful for this group.

HYPOTHESES

An earlier paper showed that those farm operators in a low-income county in Pennsylvania who intended to continue farming tended to be relatively low in level of economic aspiration.[3] Additional data from the same group of respondents are analyzed in this paper to specify further obstacles to achievement of commercial success in agriculture.[4] With reference to those lowest in income in the sample, it seemed reasonable to infer that a whole complex of factors which have been found to be associated with subsistence farming might apply. Thus it was decided to contrast respondents differing in income and begin with the crude hypothesis that those respondents lowest in income would take a subsistence approach to agriculture, with those higher in income tending toward a commercial orientation.

Some of the factors suggested by the subsistence farming context are extreme familism, avoidance of debt, low value placed on formal education, and an emphasis placed on leisure, all of which can be viewed as obstacles to change.[5] The data analyzed in this paper do not provide the complete profile of value orientations which is necessary for characterizing the subculture of the low-income farmer. There is sufficient information, however, to analyze two rather crucial categories of variables which are subsumed under the following hypotheses: *those farm operators who are lowest in income* (1) *will tend to be oriented to the present rather than the future,* and (2) *will tend to be passive with respect to the problems of mastering their environment.*[6] Higher-

[1]See, for example, W. H. Metzler, "Socio-Economic Aspects of Manpower Adjustments: Low-Income Rural Areas," *Rural Sociology*, 24 (1959), 226–235.

[2]Further background material in support of this point of view is given in F. C. Fliegel, "Aspirations of Low-Income Farmers and Their Performance and Potential for Change," *Rural Sociology*, 24 (1959), 205–214.

[3]*Ibid.*, p. 212.

[4]Specifically, this paper deals with those farm operators in the original sample who indicated an intent to continue farming and were under 60 years of age at the time of the study (N = 96). The age restriction was intended to rule out those who could be expected to retire in the near future.

[5]Metzler, *op. cit.*

[6]These hypotheses are derived from a more comprehensive conceptual framework

income respondents, in contrast, are expected to be less inclined to live on a day-to-day basis and less inclined simply to endure a given lot in life. Both planning and willingness to try to control circumstances are, of course, here viewed as important to achieving success in commercial agriculture.

ANALYSIS

Respondents were asked detailed questions about plans for farm buildings, equipment, land holdings, and enterprises. Almost all respondents mentioned at least one project which was being considered, ranging from sheer maintenance, such as painting a barn, to complete revision of the farming program. As expected, lower-income respondents mentioned fewer plans for the future than those higher in income (see Table 1).[7] Similarly, when those respondents aged 50 or over were questioned about retirement plans, a much higher proportion of those with higher incomes had made definite plans in this direction. In both cases there was a significant relationship between family income

Table 1. Summary of comparisons between income groups

	% of respondents with total family income	
	below median (N = 43)	above median (N = 53)
	per cent	
(1) Plans for future:		
Four or more changes planned for farm	21	40
Definite retirement plans (age 50–59 only)	30	64
(2) Behaviors and attitudes relevant to control of environment:		
Borrowed to buy land	19	68
Used production credit	30	55
Favorable attitude toward credit	19	34
Above median in adoption of farm practices	44	67
Favorable attitude toward science	47	77
Obtained farm information from professional source in past year	26	49
Moved since starting to farm*	26	21
Favorable attitude toward moving*	24	28
Added cropland since starting to farm†	40	55

*Difference not significant.

†$P < .10$. All other differences are significant at .05 or less.

in Florence R. Kluckhohn, "Dominant and Substitute Profiles of Cultural Orientations," *Social Forces*, 28 (1950), 376–393.

[7]Unless otherwise indicated all differences are significant at at least the 5 per cent level. Chi-square was used throughout the study, with one-tailed probabilities. For this application of chi-square see S. Siegel, *Nonparametric Statistics* (New York: McGraw-Hill, 1956), pp. 107–110.

and the presence of plans for the future, thus supporting the first hypothesis that low-income respondents will tend to be oriented to the present.[8]

A variety of behavioral and attitudinal data was used to test the second hypothesis. In general it was expected that low-income respondents would be less likely to give evidence of behavior or attitudes reflecting positive efforts to control existing circumstances. For example, responses to questions about borrowing money for farm purposes showed that under one-third of the low-income group had ever borrowed money to buy either land or supplies and equipment to be used in the production process (see Table 1). The majority of the higher-income respondents had at one time or another borrowed additional capital.[9]

If low-income respondents have used credit less in the past it should follow that they tend to reject the use of credit in the present. It is noteworthy that the bulk of the entire sample expressed rather conservative attitudes toward the use of credit. Nevertheless, as shown in Table 1, a larger proportion of the higher-income group expressed a favorable attitude toward credit use than was the case for the low-income group. However, a further question as to whether a farmer could expect to succeed without using credit showed both income groups taking the position that credit is necessary for success. Thus it seems that these respondents, and particularly the low-income group, recognize a need for credit but are not necessarily willing to use it themselves. Recognition of the need for credit is underscored by the fact that for 52 per cent of the changes in farm operation planned by the low-income group, lack of money was cited as the main obstacle. This compares with 32 per cent for the higher-income group. In general the responses to questions concerning credit lead to the conclusion that the low-income respondents are less inclined to see credit as a useful adjunct to their own farming efforts.

Adoption of recommended farm practices is another key means of gaining greater control over existing circumstances. Income groups were compared on an index of adoption of six currently recommended practices. As expected, low-income respondents had adopted fewer of the practices. Low adoption implies a rejection of the wealth of modern knowledge which is available to the farmer, an implication which becomes even more clear when the data on information sources and on attitude toward applying science to agriculture are analyzed. Table 1 shows that low-income respondents were less likely to agree that the scientific method could be useful to the farmer, and were consistent in this position in that they were also less likely to have obtained information from the county agent and other professional information sources in the year preceding the survey.

Finally, responses to several questions regarding geographical mobility

[8]The results are not a function of tenancy. Only two in this sample are tenants, both are low-income, and both plan more changes than the sample average. Being under age 50, they were not asked the question on retirement plans.

[9]Part of the lack of experience with credit can be traced to the fact that low-income farmers were more likely to have inherited their farms (45 *versus* 30 per cent, $p < .30$), and thus may have had less reason to borrow money. Low-income inheritors presently have smaller farms ($p < .05$) and are slightly less likely to have added acreage since starting to farm, as compared with high-income inheritors. They may have inherited smaller farms and are probably also more conservative.

were analyzed. It was felt that, in addition to manipulating existing resources by using the best available farming techniques, there are undoubtedly situations in which moving to an entirely different farm or at least adding more land to a farm are expedient if an optimum farming operation is to be achieved. The data on actual movement from farm to farm and on attitude toward moving, shown in Table 1, reveal no differences between the income groups. The high-income respondent is no more likely to have moved or be favorable to moving than one lower in income, but he is somewhat more likely to have enlarged his farm by buying or renting additional cropland. It is possible that moving to a different farm is not a reasonable alternative to a farmer in the sample county in that better farms may not be available. In any case relatively few respondents, regardless of income, have used this approach to gaining greater control over circumstances.

SUMMARY AND CONCLUSIONS

The data analyzed in this paper have shown that low-income respondents are less likely to project plans into the future and are less likely to utilize such key means of gaining greater control over circumstances as credit and modern farming information and practices. No difference was found between income groups with regard to movement from farm to farm. If the low-income respondent is to improve returns from agriculture, the observed tendencies will represent serious obstacles.

There are, of course, other obstacles in addition to those which have been discussed. For example, the low-income respondent in the population sampled is relatively old.[10] He also tends to have less education than the farmer with a higher income.[11] The important point, however, is the relative absence of a commercial approach to agriculture which was demonstrated in the analysis above. At the very least the present findings mean that the problem of substantially increasing returns from agriculture for the low-income segment of this population will require some quite basic changes in attitudes and values.

It is entirely possible that subsistence farming should be encouraged for at least part of the low-income group. There is very little evidence in the present data that low-income respondents either want change or could very easily change. As might be expected, they are significantly lower in level of living than the higher-income group, which at least does not rule out the possibility that desire for such things as bathrooms and freezers is also low.[12] If a given low-income farmer wishes to remain in farming and adheres to a system of values which is not consistent with modern commercial agriculture, then the best possible course for him to follow may be subsistence farming. On the other hand, those higher in income may very well be in a position to profit from educational programs geared more directly to commercial agriculture.

FREDERICK C. FLIEGEL

Department of Agricultural Economics and Rural Sociology
The Pennsylvania State University

[10] Mean age for low and high groups, 46 and 41 years, respectively ($p < .001$).
[11] $p < .001$.
[12] $p < .001$.

Communications

THE SIGNIFICANCE OF FARM ADJUSTMENT PROBLEMS TO SOCIOLOGY

THE writers hope that this will be only one of many communications you will receive which will attempt to refute and supplement Heady and Ackerman's article, "Farm Adjustment Problems and Their Importance to Sociologists," in the December, 1959 issue of RURAL SOCIOLOGY. The points offered here will not be new to reflective rural sociologists, but appear to be worth pointing out since the editors are "pleased to present" an article which contains a studied indifference to anything other than a narrow economic interpretation of alternative solutions to farm problems.

Initially it must be said that Heady and Ackerman give an essentially lucid and accurate acount of the economic and social problems facing farmers today. Sociologists, however, accustomed to acknowledging the importance of organized group effort, will find their analysis of both the cause and solution of farm problems less satisfactory.

In attempting to establish the cause of current farm problems Heady and Ackerman state that national affluence, along with increased agricultural technological efficiency, surplus production, and the inelasticity of demand for food products, has resulted in a cost-price squeeze for farmers. This situation demands as a solution that surplus farmers be helped to transfer to other forms of employment where they will presumably prosper along with the lesser number of farmers left behind to operate the larger farms. There is little suggestion in the Heady-Ackerman article that the *organized* efforts of other segments of the economy as contrasted with the relatively unorganized production and marketing efforts of farmers may be worth investigating either as a cause or as a solution to the problem. We are left to assume that national (except farm) affluence simply "occurred," presumably as a result of the Adam Smith laissez-faire operation of the market place, and that there is no alternative for farmers other than to "adjust" to this affluence by reducing their number. Presumably the prosperity of such "adjusting" farmers will be increased, although they will move into an economy where technological advances are displacing manual labor and small entrepreneurs at a rate probably equal to or greater than that in agriculture. Moreover, although the remaining, assumedly more efficient, farmers will undoubtedly produce more to lower their per unit costs, which are even more of a problem now that the displaced farmers are also contributing to a greater national affluence, the inelasticity of the demand for their products will apparently no longer be an important agricultural problem.

In reality, of course, general national prosperity has been due as much to the organized efforts of industry and labor in controlling wages, employee benefits, production, distribution, and consumption, as to the technological developments which have been a necessary but not sufficient condition for this prosperity. Similarly, whatever prosperity farmers do and will have can be attributed in large measure to the *organized* auspices through which their goods are produced and marketed. The economic potential of organized effort is an alternative solution to the farm problem which seems to have escaped Heady and Ackerman, although they implicitly place great reliance on the organized segments of the economy into which farmers are supposed to migrate, as well as on the organized efforts of rural sociologists to augment this migration.

It is not difficult to find proponents of organized efforts by rural people as a solution to social and economic problems. Agricultural economists at the University of Wisconsin have for some time advocated strong milk marketing co-operatives for Wisconsin dairy farmers. In addition, students of the rural scene, like Carl Kraenzel *(The Great Plains in Transition),* have argued, not for movement out of agriculture, but for cultural, social, and economic reorganization in depressed agricultural areas. Currently the Wisconsin Department of Resource Development, the Wisconsin Community Organization Committee, and other groups are considering ways and means of social and economic reorganization in the cutover region of Northern Wisconsin. These groups view with alarm the loss of the region's most precious resource, people.

Thus, rather than study rural attitudes and values which resist migration out of agriculture, we propose the study of attitudes and values which are in opposition to the organization of farmers' marketing co-operatives and other forms of social and economic organization. The rural sociologist can help to locate and identify the innovators and early adopters of new economic and social philosophies for farmers. We should oppose the notion that individuals and groups, such as communities, should be discouraged from moving "against the tide," when the tide refers to a fictitious Adam Smith market place. Instead, rural sociologists, agricultural economists, and agricultural extension agents should encourage rural people to preserve their way of life if they desire, by organizing into effective economic and social groups which will enable them, among other things, to bargain collectively with the transporters, wholesalers, and retailers of farm products, who certainly have not suffered economically in recent years. The Heady-Ackerman position would sacrifice all else for a more efficient economy at the cost of rural life benefits which, as has been demonstrated by Goldschmidt and others, are not economic and which seem moreover to be destroyed by economic efficiency. (See Lowry Nelson's text in his *Rural Sociology,* 2nd edition [New York: American Book Company, 1955] p. 275.)

A second question we raise in regard to the disputed article is the absence of mention of the contributions of the many highly qualified rural sociologists, in addition to Professor Loomis, who discussed the implications of the Heady-Ackerman paper at the time of its presentation in Chicago. At the very least, footnote recognition was due these gentlemen who, incidentally, also have their contributions included in the University of Illinois mimeograph, "Rural Sociology in a Changing Economy." It is worthy of

note that, almost without exception, the discussants pointed out the fact that rural sociologists have engaged in practically every type of research Heady and Ackerman propose for us. Perhaps we need to be motivated to do a more adequate job in our research; however, the majority of suggestions for research contained in the article are hardly new. Furthermore, one of the discussants was very clear in pointing out the one-sidedness of the economic model presented by Heady and Ackerman.

In summary, according to the Heady-Ackerman position, farmers and children of farmers must adjust to their economic plight by moving out of agriculture. No other alternative, such as adjusting the economic system itself, is considered. We are to assume, for example, that the dairy farmers of Wisconsin must be as docile as the cows grazing in their pastures. These farmers must accept their "fate" without raising a protesting and organized voice, and rural sociologists are challenged to assume the role of herdsmen for these docile creatures. The interdisciplinary contributions of economists to our journal must certainly be welcomed, but let us not become too intoxicated over assertions of our importance while under the influence of heavy doses of A. Smith's tonic. When rural sociologists are challenged to do research which is justified on the basis of a narrow and, we believe, economically and sociologically incomplete interpretation of social and economic problems and solutions, then we must indeed stand up and be counted.

DONALD E. JOHNSON
DENTON E. MORRISON

Department of Rural Sociology
The University of Wisconsin

CONGRUENCE VERSUS PROFITABILITY: A FALSE DICHOTOMY

IN a note in this journal, Brandner and Strauss have argued that the recent history of hybrid sorghum in Kansas proves that "congruence to an existing cultural pattern" rather than "profitability" is the basic element in the diffusion process.[1] Reference was made to my hybrid corn study,[2] with the implication that the facts about hybrid sorghum in Kansas are somehow inconsistent with the hypotheses advanced in that study. I would like to point out, first, that the diffusion pattern of hybrid sorghum in Kansas is very much what my study would have predicted and, second, that "congruence" and "profitability" are not and should not be alternative and mutually exclusive explanations of the same behavior.

The hybrid corn study concluded that one of the major factors accounting for the difference in the rate of acceptance of hybrid corn in different areas was the difference in the *absolute* profitability of the shift over from open pollinated to hybrid varieties. Thus even though the *relative* superiority of hybrids may have been the same in different areas (on the order of 20 per cent), it meant much more to farmers in higher corn yield areas. We know little about the properties of hybrid sorghum varieties as yet, but it is prob-

[1]L. Brandner and M. A. Strauss, "Congruence versus Profitability in the Diffusion of Hybrid Sorghum," *Rural Sociology* 24 (1959), 381–383.

[2]Zvi Griliches, "Hybrid Corn: An Exploration in The Economics of Technological Change," *Econometrica*, 25 (1957), 501–522.

ably safe to assume that, in this case as in the case of hybrid corn, their superiority over open pollinated varieties can be described well as a percentage increase in yield of about the same magnitude at different yield levels.[3] If this is true, then a difference in the pre-hybrid level of sorghum yields would indicate differences in the absolute profitability of the shiftover to hybrids. Thus we would expect hybrid sorghum to spread faster in high-sorghum-yield areas than in the lower-yield areas, and that is what is happening. Hybrid sorghums are spreading much faster in east and northeast Kansas than in west and southwest Kansas, and this pattern is clearly consistent with the difference in long-term yield levels of sorghum in different parts of Kansas. In fact, the Spearman rank correlation coefficient for Kansas crop reporting districts between the percentage of all grain sorghum acres planted with hybrid varieties in 1957 and the average yield of sorghum harvested for grain in 1957 was .97 (N = 9).[4] A similar high correlation is also found if longer period sorghum yield averages are used instead.[5]

What then is the evidence that is in conflict with the "profitability" hypothesis? Brandner and Strauss do not present any explicit profitability calculations. In fact, their main argument is based on the very different concept of "economic need." They argue that sorghum is more important in southwestern Kansas than in the northeast, that sorghum is better than corn in the southwest but that the opposite is true in the northeast, and that hybrid sorghum "would seem to fill an economic need" in southwest Kansas that is in some sense (never clearly defined) more urgent than it is in northeast Kansas. It may be true that sorghum is better than anything else in the southeast, and relatively worse than corn in the northwest, but it is also clear and crucial that sorghum in the northeast is better than sorghum in the southwest.[6] It is the absolute level of sorghum yield that matters, not its relative yield to something else. The relative comparison may tell us how much of the available acreage will be devoted to sorghum as opposed to the other crops, but it does not tell us how fast new sorghum production techniques will be accepted in different sorghum areas.

[3]"...experimental data indicate that good, practical grain (sorghum) hybrids—those having proper height, maturity, and other characters—outyielded standard varieties by 25 to 30 per cent." *1956 Kansas Agriculture*, 39th report of the Kansas State Board of Agriculture (Topeka, 1956), p. 58.

[4]The data are from Kansas State Board of Agriculture, *Farm Facts 1957–58* (Topeka, State Printing Plant, 1958).

[5]The 1950–1958 average yield of sorghum harvested for grain by crop reporting districts has a rank correlation coefficient of .83 with the percentage of grain sorghum acres planted to hybrid varieties in 1957, .68 with the percentage planted with hybrids in 1958, and .58 with the percentage planted with hybrids in 1959. The correlation gets weaker with time, since the higher the level of hybrid use (66 per cent in 1959 in Kansas as a whole) the poorer is the level of hybrid use as a measure of the *rate* of acceptance of hybrids by farmers. The figures used in these calculations are from various issues of *Kansas Farm Facts* and an October 19, 1959 release from the Kansas Crop and Livestock Reporting Service.

[6]Actually the evidence solely with respect to the two districts considered by Brandner and Strauss is even more favorable to the "profitability" hypothesis than is indicated by the rank correlations above. For the previous nine years (1950–1958) the yield of grain sorghum in northeast Kansas has exceeded sorghum yields in southwest Kansas by an average of 47 per cent.

The trouble with "need," even "economic need," is that as a concept it is not operational. Profitability, on the other hand, can be given an operational content. To make clear the distinction between the two, consider an example from a very different area. Most people would probably agree that in some sense the "economic need" for an education is higher among Negroes than among whites in this country. On the other hand, it seems to be true that the rate of return on a dollar invested in higher education by Negroes appears to be smaller on the average than the rate of return on the same investment by whites. An economist given this fact, while saddened by it, would nevertheless predict that Negroes are likely to invest relatively less in higher education than whites even at comparable income and asset levels.

While the available evidence is thus quite consistent with the "profitability" hypothesis, this does not imply that "congruence" is not important. What Brandner and Strauss are saying is that hybrid sorghum may have been accepted faster in northwest Kansas because farmers there have had a more extensive and more favorable experience with hybrid corn than the farmers in southeast Kansas. This may be a very important factor, but it is not in conflict with the profitability hypothesis. More generally one can consider the problem of choosing between hybrid and open-pollinated varieties as a problem of decision making under uncertainty. The amount of experimentation and evidence necessary to convince one that there *is* an important difference between hybrid and open-pollinated varieties will depend on the actual size of this difference, its variance, and the relative weight attached to Type I and Type II errors in accepting or rejecting the hypothesis.[7] The first two factors are "objective" variables; the last is "subjective" and may well reflect the previous experience gained in testing similar hypotheses. Given previous favorable experience with "hybrids" in a different crop, one may be willing to accept the hypothesis of hybrid sorghum superiority on the basis of somewhat flimsier evidence (lower significance levels) than if one had no previous experience with "hybrids." Thus "congruence" could be an important variable, within the more general rational decision making under uncertainty model, supplementing rather than supplanting the other "profitability" variables.

ZVI GRILICHES

National Bureau of Economic Research and
the University of Chicago

[7]The analogy to Sequential Sampling is intended. If one used a Bayes decision model instead, "congruence" considerations would enter in via their effect on the a priori probability attached to the hypothesis that hybrids are better.

NEIGHBORHOOD NORMS AND THE ADOPTION OF FARM PRACTICES

IN an interesting paper published in this journal, Young and Coleman describe the results of an inquiry into the effects of neighborhood norms on individual farmers, with regard to their adopting new farming techniques.[1] The method for assessing the attitude norm for a given district was to ask

[1]James N. Young and A. Lee Coleman, "Neighborhood Norms and the Adoption of Farm Practices," *Rural Sociology*, 24 (1959), 372–380.

all farmers in a district questions concerning the attitude of "most farmers in this neighborhood."

This procedure may be less satisfactory than it appears. The writer has carried out a study in which farmers were asked to give details about what "most other farmers are doing in this district" and it was clear that there was a marked bias for individual respondents to state that most farmers do what they themselves do.[2] The extent to which this bias operated varied with the question and, presumably, according to the amount of real knowledge the respondent had on this topic. It will be obvious that where a bias of this kind affects many respondents, it may give rise to agreement and a misleading impression of the extent of knowledge about the group. To take an example, if 90 per cent of a representative sample of farmers in a district make silage, and all these are affected by this bias when asked what most farmers do, 90 per cent will say that most make silage: thus in this case it is true that most of the farmers do make silage and it will appear that the majority of farmers are aware of this.

Young and Coleman, in their study, have selected their districts knowing that in some there are many farmers practicing new techniques, while in other districts only a few do so. In this sense, therefore, there are clearly group norms. Presumably Young and Coleman are more concerned to assess whether these norms can have an effect or, in other words, whether farmers know what the over-all situation is in their district. This seems to be just the sort of condition in which the farmers asked might not know what the true situation is and therefore tend to generalize on a basis of their own attitudes and experiences. If this has occurred, it would clearly be incorrect to conclude that, because many farmers in a high-adoption neighborhood attribute a scientific attitude to their neighbors, this means that these farmers do know what attitudes exist among most farmers. Likewise, any further deductions about the influence of such group attitudes would be suspect. It should be possible to find out if such a bias is occurring for, within individual districts, it would lead to those who are progressive themselves being much more likely than those who are not progressive to say that most farmers have progressive views.

A second point remarked on by Young and Coleman is that the mean adoption rate score of farmers considered successful varies more from the score of the farmers who refer to them in high-adoption areas than is the case in low-adoption areas. This is regarded as being further support for a hypothesis put forward in an earlier paper, that "in areas of high adoption, those from whom other farmers obtain farming information have higher adoption rates than farmers in general; but, in areas of low adoption, the adoption rates of leaders are similar to adoption rates of farmers in general."[3] In the present writer's view, this is not a very likely hypothesis, nor do the data quoted support it any too well. The common-sense assumption would probably be that the leaders will always have an adoption rate which is

[2] D. Sheppard, "A Survey among Grassland Farmers," Social Survey Report SS 274, (London: the Social Survey, 1960).

[3] C. Paul Marsh and A. Lee Coleman, "Group Influences and Agricultural Innovations: Some Tentative Findings and Hypotheses," *American Journal of Sociology*, 61 (1956), 588–594.

higher than among farmers in general, but that the difference between leader farmers and others is merely a function of the extent to which the adoption rates vary within a district. However, there are data which suggest that farmers in a community may ignore farmers with a very high adoption rate for the district, when asked about leaders, and instead vote for farmers with a somewhat lower adoption rate than the outstanding farmers.[4] Nevertheless, in all the data quoted the leaders do have a higher adoption rate than the average for the district and the observed data accord quite well with the assumption that a farmer, if he is to be regarded as a leader, must have an adoption rate which is higher than the average adoption rate of those who vote for him by a given *proportion* of this average. The data quoted for five districts studied show that leaders have an adoption rate which is approximately 20 per cent higher than that of other farmers taking the leaders' practice adoption rate as the base. A proportional difference is what would be expected from psychophysical theory, though clearly these data are unlike those usually studied in psychophysics, in that both an increased and a decreased proportional difference are likely to lead to less people giving the required vote. Thus the likelihood of a farmer being voted for as a leader appears to diminish both when the proportional differences between his adoption rate and that for farmers in general decreases and also when this difference increases. Clearly, if this theory is a reasonable one and it is the proportional increase that matters, it would be interesting to discover the limiting values beyond which a given farmer will fail to be regarded as a leader.

D. SHEPPARD

The Government Social Survey
London, England

[4]Eugene A. Wilkening, "Informal Leaders and Group Influences," *Rural Sociology*, 17 (1952), 272–275.

Edited by WALTER C. McKAIN, Jr.

Book Reviews

Black, John D. and George W. Westcott. *Rural Planning in One County: Worcester County, Massachusetts.* Cambridge, Mass.: Harvard University Press, 1959. xv, 419 pp. $9.50.

Beginning in 1937, at the time of the development of the land-use planning program of the USDA, a project was begun in Worcester County, Massachusetts, in which staff members of Harvard and the University of Massachusetts assisted local farmers and representatives of agricultural agencies in planning for future land use. Dr. Black and others hoped to develop a methodology which would be of value to counties throughout the country. For the period covered by this book, 1937–1955, general background data on the county have been analyzed; two towns have been studied intensively, eight others not so intensively, and general data on the remaining fifty towns in the county have been assembled and processed. In the book the background data are presented and the method used in developing alternative plans for individual farms is discussed. The experiences in one town are analyzed over about a twenty-year period, and general data on the fifty towns are presented by organizing the towns into five geographic sections which are relatively homogeneous.

In meeting the more general purposes of the book, a chapter is devoted to development of land-use planning in the United States, in which Dr. Black played an active part. In addition, the concluding chapters describe the various agencies on the federal and state levels concerned with rural planning, and discuss rural planning in general. As suggested, the title of the book is somewhat misleading. A more descriptive title would be *Rural Land-Use Planning on One County*. Only in a short chapter on community planning is attention given to factors other than the economic allocation of resources for individual farm units. No home specialists were involved in the study or, so far as reported, in the project. Although the authors emphasize the importance of planning *with* rather than *for* families, the unit of planning is the farm, and not the farm family.

SLOAN R. WAYLAND

Teachers College
Columbia University

Bogue, Margaret Beattie. *Patterns from the Sod: Land Use and Tenure in the Grand Prairie, 1850–1900.* Springfield, Ill.: Illinois State Historical Library, 1959. 327 pp. $2.50.

This book is the result of intensive research, for the most part into not readily accessible sources such as files of extinct local newspapers, collections of personal letters, and the like. It is very readable, and comprehension is aided by graphs, maps, tables, and case studies.

Grand Prairie refers to nearly five million acres of now highly productive agricultural land that constitutes eight east central Illinois counties. Originally much of this land was very wet, but by 1900 more than 250 million feet of drainage tile had been installed.

The book is divided into two parts, each of which presents four major issues. In Part I they are: (1) the original acquisition and disposition of the land, (2) speculators, (3) cattlemen, and (4) owners of large farmland tracts. In Part II the issues are: (1) changes in land use, (2) tenantry, (3) mortgages, and (4) taxes.

Speculators bought tracts of from 1,000 to more than 50,000 acres. Land values rose slowly, and careful research showed that while some speculators had tidy profits, others experienced the reverse.

The wishes of settlers who strove to develop family farms were quite contrary to those of speculators, cattlemen, and developers of large tracts. Conflicts resulted, some of which were resolved by public opinion, township ordinances, and state laws; some disappeared with changes in land ownership or land use.

Some owners of large tracts divided them into family farms for rent by breaking sod, draining wet areas, and erecting buildings. To find a formula that adequately protected the owner, the land, and the tenant was an evolutionary process.

Students of land use and ecologists will find this book germane to their interests; others will find it interesting and informative; all will admire its author's diligence in locating facts.

S. C. RATCLIFFE

Illinois Wesleyan University

Caillois, Roger, *Man and the Sacred.* Glencoe, Ill.: The Free Press, 1959. 190 pp. $4.50.

The French author of this book is indeed familiar with the pertinent English and German ethnological literature but his argument is based largely on the French ethnologists Durkheim and Mauss and their concepts of taboo and totem. The author considers the function of taboo to be the protection of the established order from all sacrilegious attacks (p. 62), and he considers the tribal gods of some groups as ancient totems of moieties (p. 66). These statements are based on many but often not new examples; furthermore, as the translator also admits, they are based, epistemologically speaking, on an oversimplified way of using comparative methods. And a sharper definition of what is to be understood by the term "sacred," as, for example, elaborated by Howard Becker, would have improved the book.

Worthy of approval, on the other hand, are the following three points.

(1) Play is indeed related to the sacred. This is true with regard to the earliest totemistic personification of the sacred animal, as well as to countless older and newer forms of play, including theater and chess. Granet had pointed out some Chinese and Huizinga some Medieval examples. Caillois, who quotes and accepts the latter, adds confirming preliterate illustrations. (2) War appears here, through well selected and largely new examples, as closely connected with the sacred (pp. 73–89). (3) Participation in a festival with its exhilarating effects is discussed; not only as opposed to the ordinary life with its prohibiting taboos, but as conceived by many tribes as such a rejuvenation that the participant will be able to brave a new cycle of life (pp. 105–107, 113–116). The author follows this concept through various preliterate societies up to many popular forms of behavior in modern occidental festivals. This demonstration must be considered the most valuable contribution of this book.

PAUL HONIGSHEIM

Michigan State University
East Lansing, Michigan

Carrasco, Pedro. *Land and Polity in Tibet.* Seattle, Wash.: University of Washington Press, 1960. vii, 307 pp. $5.75.

This book describes a social system, especially government, in which land tenure is the key institution, supported by monasticism, theocratic rule, succession by reincarnation, and polyandry. The author, an anthropologist, has never seen Tibet, but he has ably woven fragmentary information on this isolated country from the Human Relations Area Files and other sources into a well-balanced and readable study.

The book consists of an introduction; chapters on the peasantry, realm of the Dalai Lama, lesser states; conclusion; fifty-one pages of notes; a glossary, bibliography, and index.

The interrelationships of Tibet's unique social institutions offer something new to the Western social scientist. A few illustrations will indicate essential features of one of the world's most remarkably stable and almost feudal societies.

Land in Tibet belongs to the ruler. For services rendered, noblemen and peasants receive land from the ruler, who can repossess it. Rights to use of land cannot be sold, and holdings are seldom divided. Landholders have obligations to the government: head and land taxes, and extra taxes in kind and labor services, including provision of family members to the military and monasteries. Noble families supply one or two members to administer government. Two-fifths or more of major crops are paid as land taxes.

Rulers in Tibet's theocracy include territorial chiefs, hereditary nobility, and monastic officials, headed traditionally by the Dalai Lama (but, since the Chinese Communist occupation in 1951, by the Panchen Lama). Government offices are usually staffed by two sets of officials, laymen and monks. Under the Chief Lama are fifty or sixty reincarnated Living Buddhas who are among the largest landholders, moneylenders, and traders in Tibet.

Polyandry is almost universally practiced, chiefly because landholdings are too small to divide. (Population is fairly stable.) The eldest son inherits family

property and the right to a wife. If he has only two brothers, they both become *de facto* husbands of his wife. Other brothers, if any, become monks or leave the paternal home.

A listing of these facets of Tibet's society, with references to hail-chasers and corpse-cutters added, gives a sample of the contents of this excellent book.

ROBERT T. MCMILLAN

Public Administration Division
International Co-operation Administration

Smith, T. Lynn. *Fundamentals of Population Study.* Chicago, Philadelphia, and New York: J. B. Lippincott Co., 1960. xxi, 542 pp. No price given.

The purposes of this book are clearly stated in the preface where it is indicated that any student of demography should be expected to master certain essentials in the field of demography—that is, a few of the most fundamental population facts, a knowledge of the basic frame of reference, a familiarity with the sources from which materials are drawn, an acquaintance with the elementary techniques of the analysis of population—and to learn something of the relationships that exist within and between demographic phemonena. In general, the text is a well-balanced approach to the field of demography written in an enlightening fashion, penetrating, coherent, and concise.

Six major areas are treated in the text: the number and geographic distribution, the composition or characteristics of the population, the vital processes, migration, the growth of redistribution of population, and population problems and policies.

Throughout the text Smith's approach makes use of three basic variables—birth rates, death rates, and migration—to explain change in characteristics of the population. He indicates that migration data are less than satisfactory and makes a plea for a more useful type of data.

There is excellent use of attractive charts, particularly the use of multidimensional techniques in chart-making. The treatment on race, color, and nativity is especially detailed, and some materials not found elsewhere are made available. Supplementary readings indicated at the ends of the chapters are especially useful and concise, and will supplement adequately what is in the text.

Some readers are going to ask why a text is coming out in early 1960 without the use of 1960 Census data. This is a problem a demographer always faces. Regardless, the book is a distinct contribution to the field.

DOUGLAS G. MARSHALL

Department of Rural Sociology
University of Wisconsin

Wolff, Kurt H., ed. *Georg Simmel, 1858–1918.* Columbus, O.: Ohio State University, 1959. xv, 396 pp. $7.50.

We American sociologists know Georg Simmel primarily as a sociologist from four chief sources: translations, chiefly from his *Sociologie,* of chapters and articles by A. W. Small published near the beginning of the century in

the *American Journal of Sociology;* Nicholas J. Spykman's *The Social Theory of Georg Simmel,* published in 1925; *The Sociology of Georg Simmel,* edited by Kurt Wolff and published in 1950; and interpretations of Simmel's sociology in various histories of social thought. The result is that we recognize him as a chief founder of the formal school of sociology. He is increasingly appreciated as one of the first to emphasize the lasting patterns of reciprocal interactions.

But Simmel, though primarily a sociologist, had an original mind that expressed itself in many other areas. This book acquaints us with this mind in two ways. First, it presents a series of thirteen essays by various scholars that increase our understanding of his sociological views such as those on form and content, his image of society, and his philosophy of money, and that describe his other concerns such as his philosophy of life and his anthropological interests. Second, it includes translations of eight of Simmel's essays that portray his views on daily matters, such as his essay on "Adventure" and his essay on "Ruin." These are all intriguing for they show how Simmel was able to use his keen mind to give understanding to some of the issues of our day.

The book also includes two bibliographies. The one by Kurt Gassen is a listing of writings on Simmel. The other, by Kurt Wolff, lists Simmel's own books and writings available in German and in English. Combined, these provide valuable sources on Simmel for the student who wishes to do more intensive work on the subject.

The book is a collective work under the editorship of Kurt Wolff. Included among those who have prepared essays are Howard Becker, Paul Honigsheim, Heinz Mauss, and other scholars who in one way or another have intimate knowledge of the work of Simmel. This should recommend it to those rural sociologists who want to know Simmel and his works better.

WALFRED A. ANDERSON

Department of Rural Sociology
Cornell University

BOOKS RECEIVED

Bell, Daniel. *The End of Ideology.* Glencoe, Ill.: The Free Press, 1960. 416 pp. $7.50.

Birren, James E., ed. *Handbook of Aging and the Individual.* Chicago, Ill.: The University of Chicago Press, 1959. xii, 938 pp. $12.50.

Bogardus, Emory S. *The Development of Social Thought.* New York: Longmans, Green & Co., Inc., 1960. x, 689 pp. $5.50.

Bredemeier, Harry C. and Jackson Toby. *Social Problems in America.* New York: John Wiley & Sons, Inc., 1960. xvi, 510 pp. $6.75.

Dressel, Paul L. *Liberal Education and Journalism.* New York: Bureau of Publications, Teachers College, Columbia University, 1960. x, 102 pp. $2.00.

Fourastie, Jean. *The Causes of Wealth.* Glencoe, Ill.: The Free Press, 1960. 246 pp. $5.00.

Goldfarb, Nathan. *Longitudinal Statistical Analysis.* Glencoe, Ill.: The Free Press, 1960. xiii, 220 pp. $5.00.

Green, Arnold W. *Sociology, An Analysis of Life in Modern Society.* New York: McGraw-Hill Book Co., Inc., 1960. xii, 672 pp. $6.95.

Hobsbawm, E. J. *Social Bandits and Primitive Rebels.* Glencoe, Ill.: The Free Press, 1960. vii, 208 pp. $5.00.

Irving, John A. *The Social Credit Movement in Alberta.* Toronto, Canada: University of Toronto Press, 1959. xi, 369 pp. $6.00.

Janowitz, Morris. *The Professional Soldier.* Glencoe, Ill.: The Free Press, 1960. xiv, 469 pp. $6.75.

Manis, Jerome G. and Samuel I. Clark, eds. *Man and Society.* New York: The Macmillan Co., 1960. xx, 784 pp. $7.50.

Martindale, Don. *American Society.* Princeton, N.J.: D. Van Nostrand Co., Inc., 1960. x, 570 pp. $6.75.

McGrath, Earl J. *The Graduate School and the Decline of Liberal Education.* New York: Bureau of Publications, Teachers College, Columbia University, 1959. x, 65 pp. $1.50.

McPartland, Thomas S., Robert W. Habenstein, and Charlton R. Price. *Social Change and Mental Health.* Parkville, Mo.: The Park College Press, 1960. 49 pp. $1.00.

Patterson, Franklin. *High Schools for a Free Society.* Glencoe, Ill.: The Free Press, 1960. 93 pp. $1.00.

Read, Margaret. *Children of Their Fathers.* New Haven, Conn.: Yale University Press, 1960. 175 pp. $4.75.

Sahlins, Marshall D. and Elman R. Service, eds. *Evolution and Culture.* Ann Arbor, Mich.: University of Michigan Press, 1960. xii, 131 pp. $3.75.

Schettler, Clarence. *Public Opinion in American Society.* New York: Harper & Bros., 1960. ix, 534 pp. $7.00.

Shryock, Richard Harrison. *Medicine and Society in America, 1660–1860.* New York: New York University Press, 1960. 182 pp. $4.00.

Slotkin, James Sydney. *From Field to Factory, New Industrial Employees.* Glencoe, Ill.: The Free Press, 1960. 156 pp. $4.00.

Tibbitts, Clark and Wilma Donahue. *Aging in Today's Society.* New York: Prentice-Hall, Inc., 1960. xxv, 418 pp. $6.00.

Weinberg, Meyer. *Issues in Social Science.* New York: Prentice-Hall, Inc., 1959. 226 pp. $2.95.

Weinberg, S. Kirson. *Social Problems in Our Times.* New York: Prentice-Hall, Inc., 1960. viii, 600 pp. $6.75.

Edited by LOUIS J. DUCOFF*

Bulletin Reviews

Beyer, Glenn H. *Housing and Personal Values.* Cornell Univ. Agr. Expt. Sta. Memoir 364; Ithaca, N. Y., July, 1959. 43 pp.

The basic purpose of this study was "to learn more about the psychologist's and sociologist's concept of values so that, ultimately, a better understanding of what American housing should represent might be obtained." One phase aimed to identify and field test a group of values related to housing; another explored the possible application of the values identified to planning and architecture.

At the outset, the value frame of reference is made explicit by definition, an itemization of ten general characteristics of values, and interpretation of differences between values and preferences, attitudes and motivations.

From a 1952 pilot survey of families in Buffalo, New York, few significant differences had been found between responses of husbands and wives. Consequently, only wives were interviewed in two subsequent field surveys of 700 rural families and about 1,000 urban families. Similar interview schedules were used in all three surveys.

After consideration of twenty possible values, nine were selected for study in relation to housing. Both scale-analysis and forced-answer techniques were used to evaluate the orientations of respondents toward the various values. Some persons, particularly those of the rural sample, were inclined toward value clusters of family centrism, equality, economy, and personal health. Others aspired especially for freedom, aesthetics, and mental health; prestige and leisure were weaker elements of both clusters.

During the interviews with the Buffalo and the rural samples, responses were obtained concerning intensity of feeling about each of nineteen architectural features. These responses were analyzed in relation to the nine values. Findings are reported in tables and are discussed in considerable detail with respect to each value. This exploration of the application of the values concept to housing design should be particularly useful to educators and researchers as well as to house planners.

MARGARET I. LISTON

College of Home Economics
Iowa State University

*Assisted by Elsie S. Manny.

Christiansen, John R., Sheridan Maitland, and John W. Payne. *Industrialization and Rural Life in Two Utah Counties.* Utah Agr. Expt. Sta. Bull. 416; Logan, 1959. 32 pp.

Brigham Young University and the United States Department of Agriculture co-operated in this study, which is one of a number dealing with the effects of rural industrialization conducted jointly by the USDA and the State Agricultural Experiment Stations.

The primary purpose of this study was "to appraise some of the social and economic changes which occurred in the lives of rural residents when an industrial plant was established in their community." The plant began operations in the area in 1948 and the interviews were taken in 1958. The sample for the report consisted of 205 employees of the Thermoid Rubber Company and 246 residents representing all households in Juab and Sanpete Counties.

There had been little in-migration because of the plant. About 97 per cent of the plant employees were residents of the area before going to work for the company. On the other hand, the plant appeared to have put a damper on out-migration.

A number of comparisons were made between the "plant workers," "other nonfarm workers," and "farmers" of the sample. The differences among these groups were not great. The plant workers tended to be younger than either of those in the other two groups. But, after controlling for age, it was found that there was little difference as far as education, level of living, and family stability of the groups is concerned and "plant workers were as active in religious organizations and more frequent participators in community affairs."

Most of the respondents expressed favorable opinions toward the plant and its influence in the community. "It is the consensus of the group interviewed that the factory has had a marked and noticeably beneficial effect on the community."

The bulletin is well written and gives the impression of professional competence.

H. Bruce Bylund

Department of Agricultural Economics and Rural Sociology
Pennsylvania State University

Harvey, Mary Anne. *Statistics of Rural Schools. A U.S. Summary, 1955–56.* U. S. Dept. of Health, Education, and Welfare Cir. 565; Washington, D.C., 1959. 17 pp.

Gaumnitz, Walter H. *Small Schools Are Growing Larger. A Statistical Appraisal.* U. S. Dept. of Health, Education, and Welfare Cir. 601; Washington, D.C., 1959. 21 pp.

These publications are two of a general series, "The Rural School Survey." *Statistics of Rural Schools* is the second circular and *Small Schools Are Growing Larger* is the fourth and final report.

Statistics of Rural Schools "is a study of education in rural counties classified by degree of ruralness." The study includes 1,760 counties, 57 per cent of all the counties in the United States. In these counties there are more than six million children, 26,508 school districts, and 52,226 elementary and secondary schools. In 1955–1956 40 per cent of the nation's elementary and secondary schools enrolled 20 per cent of the country's pupils. Schools in these counties

were necessarily small with few teachers. The average number of teachers for elementary schools was 3.6 and for the secondary schools 8.7. The more rural the school, the smaller it was both with respect to number of teachers and number of children enrolled. Expenditure per school was higher in the counties where consolidation of the administrative units had not taken place and the average size per school was also considerably smaller.

Comparison of rural and city schools shows that enrollment in city elementary schools averaged from three to five times that of the rural county schools; enrollment in city high schools averaged from almost three to about seven times that of rural county schools. Average annual expenditures per pupil in average daily attendance was about 100 dollars less for rural county schools than for schools in larger cities.

Small Schools Are Growing Larger begins with a discussion of what constitutes a rural school. There were 3,068 county school systems, or their equivalent, in the continental United States in the year the study was made. Of these, 1,750, or 57 per cent, were classified as rural. Of the total county school systems, 2,314, or 75.4 per cent, were organized on the multi-district basis. Some counties have more than 100 school administrative districts. Fully a third of all the school districts in the continental United States in 1956 had fewer than 15 pupils each; half of these did not operate a school. Districts with few children were, as a rule, staffed by few teachers, from one to not more than nine. Pupil-teacher ratios were below 15 in the rural secondary schools of several states.

Recent trends in our educational system show that in 26 years from 1932 to 1958, almost two-thirds of the school districts had disappeared through consolidation or reorganization of one type or another. The least consolidation took place in the New England states (2.6 per cent), the most in the lower Southeastern states (88.5 per cent). There has also been a great decrease in the number of one-teacher schools between 1917–1918 and 1957–1958—a reduction from 196,037 to 25,200, or 87.1 per cent.

Although there has been a general trend toward larger school districts and fewer one-teacher schools, there is still room for further consolidation. The question which may well be asked is, will the larger schools do a better job in meeting our present and future needs than the smaller schools did in filling the needs of the past?

These surveys contain valuable statistical data on our rural schools.

MARION B. SMITH

Department of Sociology
Louisiana State University

Hassinger, Edward W., and Robert L. McNamara. *Family Health Practices among Open-Country People in a South Missouri County.* Missouri Agr. Expt. Sta. Res. Bull. 699; Columbia, August, 1959. 25 pp.

This study is the fourth in a series of health reports using data obtained from a sample of 152 open-country households in Laclede County, Missouri. Along with the actual performance relative to selected health practices, householders' opinions relative to the practices were obtained and the extent of consistency between the two was determined.

Health practice behavior described in this bulletin includes (1) the role

of the physician in the total family health situation, (2) family illness and its management, (3) use of a hospital, (4) preventive health measures, (5) selected nutrition habits, and (6) home medication. Differences in health practice behavior in relation to age of the head of the household are shown. The authors also point out the relationship between age and certain socio-economic characteristics related to family health practices—education of head of household, level of living, income, size of household, and number of children under 16 years.

The study was primarily exploratory rather than the testing of prepared hypotheses. No statement of the limitations of the findings or suggestions for further research are presented. A contribution of this research is its exploration into aspects of family health management and the parts played by the physician and the family itself when illness strikes.

The fact that this bulletin is the twelfth dealing with rural health published by research sociologists at the University of Missouri is of much significance.

HAROLD E. SMITH

Department of Social Sciences
Northern Illinois University

Nagi, Saad Z., and Wade H. Andrews. *Field Studies in Heart Disease.* Ohio Agr. Expt. Sta. Res. Bull. 836; Wooster, September, 1959. 63 pp.

Nagi, Saad Z. *Factors Related to Heart Disease among Ohio Farmers.* Ohio Agr. Expt. Sta. Res. Bull. 842; Wooster, October, 1959. 46 pp.

Bulletin 836 was prepared "for the purpose of reviewing the definitions, designs and findings of the important field studies of heart disease . . . to provide background data needed in designing a field study of heart disease among farm people in Ohio." Bulletin 842 reports the findings of an epidemiological analysis of heart disease mortality for rural Ohio.

With a little more work, the first bulletin might have been a valuable reference for persons considering epidemiological studies in heart disease. Unfortunately the authors did not go into the subject very deeply. While the review of designs and findings should be useful, the discussion of disease classification and morbidity is somewhat misleading. For example, the authors seem unaware that the sixth revision (1948) of the *International Statistical Classification of Diseases, Injuries, and Causes of Death* was replaced by the seventh revision in 1957, or that the National Health Survey of 1935–1936 is not the only national survey but that since July 1957 a nationwide health survey has been continuously in operation with many publications issued to date. Also, they seem to miss the point in some of the distinctions they make—for example, the difference between a statistical classification and a nomenclature is in purpose, not simply in "specificity and completeness."

The second bulletin (842) reports a study designed to "delineate variables that are associated with the prevelance rates of death by diseases of the heart and to study the nature and degree of that association." Seventeen demographic, occupational, and socioeconomic characteristics of Ohio counties were correlated with rural death rates for heart diseases for each county. For

arteriosclerotic heart disease, twelve correlations were statistically significant. Of these the author discusses ten, suggesting that in each case the independent variable measures stress and pointing out that the direction of all ten correlations supports a general hypothesis relating arteriosclerotic heart disease to emotional stress. It is not clear, however, whether it was decided that these ten variables measured stress before or after the correlations with arteriosclerotic heart diseases were observed, or why no mention is made of the seven other correlations calculated, or, more generally, why the seventeen variables were selected in the first place.

It is encouraging to see social scientists venturing into such an important field as heart disease epidemiology. It is disappointing that these early efforts do not compare more favorably with other work in this field.

PHILIP E. ENTERLINE

Division of Public Health Methods
U. S. Public Health Service

Pal, Agaton P., et al. *Silliman University Community Development Program.* First Report: "Account of the Planning, Implementation, and Training of Workers of a Community Development Program; the People's Responses, Perceptions of the Roles of Workers, and the Experiences of Each Worker." Silliman University, Dumaguete City, Philippines, May, 1959. 142 pp.

A 38-page statement by Dr. Pal, director of the program, and an appendix section consisting of insightful personal reports of colleagues make up this report. Initiated in 1957 as an intensified educational effort to upgrade the level of living of the predominantly agricultural area around Silliman University, the program was originally designed as a five-method effort at guided self-help.

The methods, identified as the modern farmer, the farmer's friend, the community group study, the community school, and the church community service approaches, depend for success on immediate acceptance of program personnel by community residents. However, two major factors—sponsorship by a Protestant missionary institution in a Catholic area and a people conditioned to material rewards for co-operation in foreign aid programs—have impeded rapport. As a consequence, only the first two methods were showing appreciable progress a year after start of the action phase.

Thus far, partial successes have had to suffice. Personal contacts are becoming more productive as trust is established. The poultry exchanges are working out and farmers are realizing the value of natural fertilizers. Tape recorders are involving farm people in the educational radio programs, although the entertainment aspects tend to be stronger attractions than the educational aspects, and the radio loan plan is starting to function.

Students of community development will be interested in comparing reports of this program with those by Chitambar, Barnabas, and others on the "Jupan" program of the *Gaon Santhis* in the Allahabad area of India.

DARCIE BYRN

Federal Extension Service
U. S. Department of Agriculture

Straus, Murray A., and Allen J. Estep. *Education for Technological Change among Wisconsin Farmers.* Wisconsin Agr. Expt. Sta. Bull. 214; Madison, August, 1959. 22 pp.

This bulletin examines the extent to which 742 farm operators under age 45 living in nine Wisconsin counties had participated in five agricultural education programs and whether participation in such programs influenced the farm operators to adopt improved farm practices. Altogether the five education programs reached half of the farm operators, although no one program reached more than a fourth.

The sample of farm operators was divided into low, middle, and high groups, on each of several control variables, and the relationship between the education programs and adoption was assessed independently of these control variables. The control variables were amount of general education, net worth, gross income, crop acres, ownership, time farming, ethnic tradition maintained, and participation in farm organizations. With this method of analysis, it was found that the agricultural training received was significantly related to the adoption of improved farm practices. Farm operators who fell in the middle group on the control variables appeared to be influenced most by the training programs.

This report has important implications for both full- and part-time farming in the United States. Technological competence is mandatory for the young men who enter the farming occupation. This bulletin demonstrates that technological competence can be substantially increased by participation in agricultural education programs. Thus educators are challenged: can they develop such education programs and can they reach their targets in their respective localities?

E. GRANT YOUMANS

Agricultural Marketing Service
U. S. Department of Agriculture

OTHER PUBLICATIONS RECEIVED

Abma, E., and J. E. Montgomery. *Woning, Dorp en Dorpsgemeenschap in de Noordoostpolder* (The Emerging Community in a Newly Reclaimed Area). A Summary in English. Bull. 16; Afdeling Sociologie en Sociografie Van de Landbouwhogeschool, Wageningen, 1959. 48 pp.

American Library Association. *Library Service for Rural People.* USDA Farmers' Bull. 2142; in co-operation with U. S. Dept. of Health, Education, and Welfare, Washington, D.C., Sept., 1959. 20 pp.

Belcher, John C., and Donald G. Hay. *Use of Health Care Services and Enrollment in Voluntary Health Insurance in Greene County, Georgia, 1956.* Georgia Agr. Expt. Sta. Bull. N.S. 70; Athens, Mar., 1959. 23 pp.

Booth, E.J.R. *The Potential for Rural Development in Cherokee County, Oklahoma.* Oklahoma Agr. Expt. Sta. Bull. B-548; Stillwater, Feb., 1960. 37 pp.

Bower, John C. *Financing Montana Schools.* Montana State College Ext. Serv. Bull. 301; Bozeman, Aug., 1959. 28 pp.

Burnight, Robert G. *Measures of Social Change, Connecticut Counties and Towns 1940–1958.* Connecticut Agr. Expt. Sta. Bull. 347; Storrs, Jan., 1960. 95 pp.

Burnight, Robert G., and Willard D. Callender. *The Social and Economic Effects of the Connecticut Turnpike on Eastern Connecticut. Population Change and Distribution.* Connecticut Agr. Exp. Sta. Prog. Rpt. 30; Storrs, Jan., 1960. 5 pp.

Cole, Lucy Wellborn. *What Makes a Successful Community Development Program.* Mississippi Agr. Expt. Prelim. Rpt. in Sociology and Rural Life 8; State College, July, 1959. 27 pp.

Coughenour, C. Milton. *Agricultural Agencies as Information Sources for Farmers in a Kentucky County, 1950–1955.* Kentucky Agr. Expt. Sta. Prog. Rpt. 82; Lexington, Nov., 1959. 57 pp.

Cowhig, James D., and Sheridan T. Maitland. *An Analysis of the Experienced Hired Farm Working Force, 1948–1957.* USDA Agr. Inf. Bull. 225; Washington, D.C., Apr., 1960. 19 pp.

Cowhig, James D., and Sheridan T. Maitland. *The Hired Farm Working Force of 1958.* USDA Agr. Inf. Bull. 219; Agricultural Marketing Service, Washington, D.C., Dec., 1959. 29 pp.

Danley, Robert A. *Population Estimates for Kentucky Counties and Economic Areas, July 1, 1958.* Kentucky Agr. Expt. Sta. Prog. Rpt. 79; Lexington, Aug., 1959. 17 pp.

McKain, Walter C., Jr., and James R. Weir. *The Social and Economic Effects of the Connecticut Turnpike on Eastern Connecticut Recreation.* Connecticut Agr. Expt. Sta. Prog. Rpt. 35; Storrs, Feb., 1960. 5 pp.

Metzler, William H., and W. W. Armentrout. *Farming, Farm People, and Farm Expansion in Fayette, Raleigh, and Summers Counties, West Virginia, 1958.* West Virginia Agr. Expt. Sta. Bull. 439; Morgantown, Dec., 1959. 12 pp.

Nelson, Bardin H., and Gerald M. York. *An Analysis of 4–H Club Training and the Educational and Occupational Goals of 4–H Club Members.* Texas Agr. Expt. Sta. MP–375; College Station, Oct., 1959. 11 pp.

Nolan, Francena L., and Dawn H. Tuttle. *Certain Practices, Satisfactions, and Difficulties in Families with Employed Homemakers.* Pennsylvania Agr. Expt. Sta. Bull. 655; University Park, Aug., 1959. 31 pp.

Rogers, Everett M., Gordon Ryder, Frank O. Leuthold, and Ronald L. Pitzer. *The Impact of Demonstrations on Farmers' Attitudes Toward Fertilizer: A Progress Report.* Ohio Agr. Expt. Sta. Mimeo. Bull. A.E. 308; Wooster, 1959. 20 pp.

Schnittker, John A., and Gerald P. Owens. *Farm-to-City Migration: Perspective and Problems.* Kansas Agr. Expt. Sta. Agr. Econ. Rpt. 84; Manhattan, Sept., 1959. 32 pp.

Sizer, Leonard M., Ward F. Porter, Charles C. Anderson, and Laurel Sabrosky. *The Learning Experiences of Youth Groups—A Study of 4–H Clubs in*

Barbour County, West Virginia. West Virginia Agr. Expt. Sta. Bull. 427; Morgantown, May, 1959. 31 pp.

Stone, Carol L. *Some Techniques and Shortcuts in Data Processing.* Washington Agr. Expt. Sta. Cir. 371; Pullman, Mar., 1960. 23 pp.

Suterland, J. Gwyn, C. E. Bishop, and F. A. Hannush. *An Economic Analysis of Farm and Nonfarm Uses of Resources on Small Farms in the Southern Piedmont, North Carolina.* North Carolina Agr. Expt. Sta. Tech. Bull. 138; in co-operation with Agricultural Research Service, USDA, Raleigh, May, 1959. 55 pp.

Taves, Marvin J. *Mobility Among High School Graduates.* Minnesota Agr. Expt. Sta., Sociology of Rural Life No. 3; St. Paul, Nov., 1959. 32 pp.

U. S. Department of Agriculture, Agricultural Marketing Service. *Farm Population Estimates for 1950–59.* AMS–80 (1959); Washington, D.C., Feb., 1960. 14 pp.

U. S. Department of Agriculture, Agricultural Marketing Service, Agricultural Research Service, and U. S. Department of Commerce, Bureau of the Census. *Supplement to Published Reports on Survey of Farmers' Expenditures in 1955. Production Expenses, Family Living Expenses, Expenditures for Motor Vehicles and Machinery.* AMS–354; Washington, D.C., Dec., 1959. 79 pp.

U. S. Department of Agriculture, Agricultural Research Service, and Agricultural Marketing Service. *Food Consumption and Dietary Levels of Households as Related to the Age of Homemaker, United States – by Region.* Report 14; Household Food Consumption Survey, 1955, Washington, D.C., Oct., 1959. 134 pp.

Walrath, Arthur J. *Impacts of Changes in Land Use: A Study of an Urban-Rural Area of Southeastern Wisconsin.* Agricultural Research Service 43–95; USDA, in co-operation with Wis. Agr. Expt. Sta., Washington, D.C., Nov., 1959. 53 pp.

Wayt, W. A., H. R. Moore, and C. H. Hillman. *Some Economic and Social Aspects of Part-Time Farming in Ohio.* Ohio Agr. Expt. Sta. Res. Bull. 837; Wooster, Aug., 1959. 58 pp.

Whyte, Donald R., Emmit F. Sharp, Olaf F. Larson, and Nelson L. LeRay. *Migratory Farmworkers in New York State, 1959 and Comparisons with 1953, 1957, and 1958.* Agricultural Research Service 43–121; USDA, in co-operation with Cornell Univ.; Washington, D.C., Apr., 1960. 10 pp.

Youmans, E. Grant. *Socio-Economic Problems of Older Persons in Casey County, Kentucky.* Kentucky Agr. Expt. Sta. Prog. Rpt. 88; Lexington, Mar., 1960. 48 pp.

Edited by MARION T. LOFTIN

News Notes

COLLEGES AND UNIVERSITIES

Chico State College, Chico, California

The Social Science Division is in the process of requesting an A.B. major in sociology to begin as soon as possible.

Robert Rankin, Associate Professor in Sociology, is having his material on "The Church and the Minister's Family" published. This is part of his study of the impact of large-scale organization upon the local church in urban and nonurban regions, with special reference to northern California.

Ritchie Lowry, Assistant Professor of Sociology, is conducting a study of "The Power Structure of a Northern California Community" and the impact of larger urban society upon the medium-sized community.

Ronald Kurtz, Instructor in anthropology, is completing his study of culture change among the Canyoncita Navajo.

Florida State University

Ivan Nye, Director of the Sociological Research Laboratory at Washington State University, will join the staff as professor of sociology and director of the Interdivisional Doctoral Program in Marriage and Family Living beginning September 1, 1960.

Mississippi State University

The expanding enrollment required two additions to the teaching staff. Andrew Wesley Baird, Research Assistant in the Agricultural Experiment Station, became acting instructor in sociology beginning with the spring semester. John R. Watson, formerly with the Air ROTC, became part-time acting instructor in sociology.

A program of visiting lecturers was inaugurated as a part of the enlarged graduate program. J. V. Freitas Marcondes of the Escola de Sociologia e Politica, University of Sao Paulo, Brazil, was visiting Fulbright lecturer during the fall semester. After an extended lecture tour of the Southeast, he returned to Brazil in March. Daniel O. Price, Director of the Institute for Research in Social Science of the University of North Carolina, was consultant and visiting lecturer on population, February 16–18, 1960. John L. Fischer of the Department of Sociology and Anthropology, Tulane University, was the American Anthropological Association's visiting lecturer, April 21–22, 1960.

ANNOUNCEMENTS

Nineteenth Congres International de Sociologie.—The 1960 meeting was held in Mexico City from August 31 to September 6. Lic. Carlos A. Echanove T. (San Juan de Letran 9–207, Mexico, D. F.), is president of the organizing committee; the late William Fielding Ogburn was vice-president for the United States. Carle C. Zimmerman (200 Emerson Hall, Harvard University, Cambridge 38, Mass.) is secretary for the United States and Canada. This was the first congress to be held on the American continent. In honor of this the subject for this year was "Themes de sociologie latino-americaine." The difference between the Institut Internationale, which holds the Mexican congress, and the Association International, is that the Institut has individual memberships elected from most of the countries of the world, whereas the Association is essentially a federation of national associations. Non-members who wish to be considered should correspond with the North American secretary. Dues are negligible.

Arrangements to include abstracts of United States publications of agricultural economics and rural sociology research in a world journal, *World Agricultural Economics and Rural Sociology Abstracts,* are being developed by the U. S. Council of the International Conference of Agricultural Economists. Dr. Sigmund von Frauendorfer of Vienna, Austria, will edit the quarterly publication. The third issue is now in press. Subscriptions for the abstracting service should be sent to the North Holland Publishing Company, Post Office Box 103, Amsterdam, Holland. The annual subscription will be $12.50.

Harry C. Trelogan of the Agricultural Marketing Service, USDA, has been asked by the Council to serve as chairman of the group of specialists who have agreed to accept primary responsibilities for collecting and preparing abstracts in their respective subject-matter areas. Charles E. Rogers of the Agricultural Marketing Service will serve as U. S. Secretary. In this capacity he will assemble the abstracts from the group of abstracters each quarter and forward them to the editor.

United States members of the Rural Sociological Society are invited to send abstracts of their bulletins and major articles in the several subject-matter areas or to send copies of these for abstracting, to the specialists noted below. Because of the wide range of published research to be covered and the limitations of funds, choices must be made among publications to be abstracted. Dr. von Frauendorfer as editor has the final responsibility for such choices. Published materials for abstracting may be addressed to those listed, all of whom are located in the U. S. Department of Agriculture, Washington 25, D. C.

Name	*Subject Matter*	*Division*
Dr. Paul J. Jelik	Rural Sociology	State Exp. Stations
Dr. James P. Cavin	Agricultural Economics	Agr. Economics
Dr. Winn F. Finner	Marketing	Marketing Research
Mr. Mark M. Regan	Land Economics	Farm Economics Research

Mr. Warren R. Bailey	Farm Management	Farm Economics Research
Dr. John M. Brewster	Farm Management	Farm Economics Research
Mr. J. Kenneth Samuels	Co-operation	Marketing Research
Dr. Fred L. Garlock	Agricultural Credit	Farm Economics Research
Mr. Emerson Brooks	Agricultural Statistics	Agr. Estimates
Dr. Marguerite Burk	Consumption Economics	Agr. Economics
Mr. Karl Shoemaker	Extension	Agr. Economics
Dr. Wayne Rasmussen	History	Agr. Economics
Dr. Charles Rogers	U. S. Secretary	Marketing Information
Mr. Anthony Rojko	Econometrics	Agr. Economics

Program
for the 1960 Annual Meeting

The Rural Sociological Society

at Pennsylvania State University
UNIVERSITY PARK, PENNSYLVANIA
AUGUST 25–27, 1960

AND WITH THE

American Sociological Association

at The Statler-Hilton Hotel
NEW YORK CITY
AUGUST 29, 1960

Thursday, August 25, 1960

REGISTRATION—Beginning at 8:00 A.M., Nittany Lion Inn

8:30 A.M. Meeting of Executive and other Committees

9:00–10:30 A.M. Section I

The Rural Community as an Emergent Concept

Chairman: Selz C. Mayo, North Carolina State College

George A. Hillery, Jr., University of Kentucky
"The Rural Community: Traditional and Emergent"

Ray E. Wakely, Iowa State University
"Changing Community Relationships in a Corn Belt County"

Charles Freeman, Pennsylvania State University
"Two Approaches to Community Development: A Situational Analysis"

Discussants: James Longest, Cornell University
James N. Young, North Carolina State College
E. J. Niederfrank, Federal Extension Service

9:00–10:30 A.M. Section II

Migration and Urbanization Studies

Chairman: Everett M. Rogers, Ohio State University

James N. Ypsilantis and Samuel Baum, U. S. Bureau of Census
"Occupational Mobility of the Farm Population in Hungary: A Peasant Society at the Crossroads of Industrialization"

A. Eugene Havens, Ohio State University
"Measuring the Localite-Cosmopolite Dimension"

George L. Wilber, Mississippi State University
"A Review of Migration Research"

Discussants: John Kosa, Cornell University
J. Allan Beegle and Harold Goldsmith, Michigan State University
C. Horace Hamilton, North Carolina State College

10:45 A.M.–12:15 P.M. Section III

The Rural Family Today

Chairman: Ward F. Porter, Federal Extension Service

D. Dyck, Rural Sociology Unit, Economics Division, Canada Department of Agriculture
"Relocation Adjustments of Farm Families"

I. W. Arthur, Lee Burchinal, Eber Eldridge, and Donald Kaldor, Iowa State University

"Correlates of the Educational and Occupational Aspirations of Iowa Farm Senior Boys"

J. Joel Moss, Southern Illinois University
"Rural Family Values and the Socialized Personality"

Discussants: Darwin Solomon, University of Saskatchewan
Edward V. Pope, Federal Extension Service
Leonard Sizer, West Virginia University

10:45 A.M.–12:15 P.M. Section IV

Rural Education—The Contemporary Scene

Chairman: R. L. Skrabanek. Texas A. & M. College

H. K. Schwarzweller and James Brown, University of Kentucky
"Education as a Cultural Bridge Between Rural and Urban Society"

G. L. Atkinson, Jr. Ohio State University
"Personal Influence in Occupational Choice of High School Senior Boys"

Wayne Lane and J. S. Holik, University of Missouri
"The Role of High School Students in Community Improvement"

Discussants: M. S. Brooks, Southern Illinois University
Frank Alexander, Cornell University
J. L. Charlton, University of Arkansas

1:30 P.M. Business Meeting—First Session

Welcome from Host: Lyman E. Jackson, Dean, College of Agriculture, Pennsylvania State University

3:00–5:00 P.M. Section V

Sociology of the Farmer (Research Clinic)

Chairman: Samuel W. Blizzard, Princeton Theological Seminary

Participants: Robert C. Bealer, Pennsylvania State University
A. Lee Coleman, University of Kentucky
William S. Folkman, North Carolina State College
Glenn V. Fuguitt, University of Wisconsin
Paul Jehlik, U. S. Department of Agriculture
Murray A. Straus, Cornell University

6:30 P.M. Presidential Address: Charles R. Hoffer, Michigan State University
"The Development of Rural Sociology"

Report of Committee on Development of Rural Sociology

8:00 P.M. Reception

Friday, August 26, 1960

8:30–10:00 A.M. Section VI

Rural Social Structure and Personality

Chairman: Murray A. Straus, Cornell University

John S. Holik and Rex Campbell, University of Missouri
"The Relationship Between Group Structure and the Perception of Progressiveness"

Marvin J. Taves, University of Minnesota
"Impact of School Consolidation on Personality Development among Rural Pupils"

Carole E. Wolff and A. O. Haller, Michigan State University
"Farm, Rural Nonfarm and Village, and Small Urban Differences in Personality Orientations of Michigan Seventeen-year-old Boys"

Discussants: Irving A. Spaulding, University of Rhode Island
William M. Smith, Pennsylvania State University
Jack V. Buerkle, Yale University

8:30–10:00 A.M. Section VII

The Rural Church in an Era of Change

Chairman: C. Milton Coughenour, University of Kentucky

Thomas R. Ford, University of Kentucky
"Socioeconomic Status and Religious Beliefs in the Southern Appalachians"

John A. Hostetler, University of Alberta
"Boundary Maintenance and Resistance to Assimilation in a Communistic Group: The Hutterites"

J. Ross Eshleman, Ohio State University
"Motives for Church Participation in an Interstitial Rural Locale"

Discussants: William G. Mather, Pennsylvania State University
Prodipto Roy, Washington State University
John D. Photiadis, South Dakota State College

10:15 A.M–12:15 P.M. Section VIII

New Methodology and Theory

Chairman: Archie O. Haller. Michigan State University

Everett M. Rogers and Edna Rogers, Ohio State University
"A Methodological Analysis of Adoption Scales"

Calvin Redekop, Hesston College
"Sociology of Sectarianism"

James H. Copp, Pennsylvania State University
"Trace Line Analysis: An Improved Method of Item Analysis"

I. W. Miller, Michigan State University
"Level of Occupational Aspiration: Problems in Conceptual Clarification and Measurement"

Discussants: Frederick C. Fliegel, Pennsylvania State University
George A. Lee, Board of National Missions, United Presbyterian Church in the United States of America
Glenn C. McCann, North Carolina State College
Harry K. Schwarzweller, University of Kentucky

10:15 A.M.–12:15 P.M. Section IX

Studies of the Adoption and Diffusion of Farm Practices

Chairman: George V. Douglas, Montana State College

Herbert F. Lionberger, Rex R. Campbell, and John S. Holik, University of Missouri
"The Differential Influence of Mass Media in Farmers' Interpersonal Communication Patterns"

Eugene A. Wilkening, University of Wisconsin
"The Use and Role of Information Sources Among Dairy Farmers of Northern Victoria"

David G. Francis and Everett M. Rogers, Ohio State University
"Adoption of a Non-Recommended Innovation: The Grass Incubator"

Frank O. Leuthold, Ohio State University
"The Role of the Demonstration Farmer in the Diffusion Process"

Discussants: George M. Beal, Iowa State University
Harald A. Pedersen, Montana State College
A. Lee Coleman, University of Kentucky

1:30–3:00 P.M. Section X

Studies of Social Structure and Stratification

Chairman: Wilfrid C. Bailey, Mississippi State University

J. G. Hardee, North Carolina State College
"Social Structure and Formal Social Participation in an Australian Rural Community"

Ramon E. Henkel and Glenn V. Fuguitt, University of Wisconsin
"Occupational Involvement and Social Relationships of Farm Operators"

David M. Lewis, Michigan State University
"Cross-cultural Studies of the Evaluation of Occupations by Youth"

Discussant: Louis A. Ploch, University of Maine

1:30–3:00 P.M. Section XI

The Integration of Theory and Research

Chairman: Bert Ellenbogen, Cornell University

Robert C. Bealer, Pennsylvania State University
"Theory-Research: Some Implications of the Obvious"

Charles P. Loomis, Michigan State University
"The Analysis of Change through the Processually Articulated Structural Model"

John Harp, Iowa State University
"Elements of Role Conflict and Ambivalence in Small Business Organizations"

Discussants: Robin M. Williams, Cornell University
Eugene Wilkening, University of Wisconsin
Emmit F. Sharp, Cornell University

3:15–5:15 P.M. Section XII

Problems of Rural Life and the Role of the Extension Sociologist

Chairman: Donald R. Fessler, Virginia Polytechnic Institute

Frank D. Alexander, Cornell University and Emory J. Brown, Pennsylvania State University
"Analysis of Current Functions of Extension Rural Sociologists in Relation to Present-day Rural Problems"

Gordon J. Cummings, Cornell University
"What Are the Major Responsibilities of Extension Sociologists?"

Discussants: George Beal, Iowa State University
Ed Moe, Michigan State University
Art Wileden, University of Wisconsin
E. J. Niederfrank, Federal Extension Service

3:15–5:15 P.M. Section XIII

Social Change and Rural Social Disorganization

Chairman: Ivan Nye, Washington State University

Ward Bauder, A.M.S., U. S. Department of Agriculture
"Impact of Nonfarm Employment of Farm Wives on Farm Family Living"

Prodipto Roy, Washington State University
"Variables Associated with Leaving Farming"

Grant Youmans, A.M.S., U. S. Department of Agriculture
"The Retirement Process in Rural Kentucky"

Discussants: Joseph Crymes, Ohio State University
Walter Boek, New York Department of Health

6:30 P.M. Picnic Supper

Saturday, August 27, 1960

8:30 A.M. Business Meeting—Second Session

9:30–11:30 A.M. Section XIV

Some Approaches to the Analysis of Human Factors in Rural Sociological Research

Chairman: Sloan Wayland, Teachers College, Columbia University

Wade H. Andrews, Lowell F. Rothert, and Saad Nagi, Ohio State University
"A Preliminary Study of Factors Associated with Heart Disease among Ohio Farmers"

Saad Gadalla, University of Missouri
"Some Approaches to the Study of Environmental and Human Factors Associated with Farm Accidents"

Bardin H. Nelson, Texas A. & M. College
"Response Variation and Interviewing Techniques"

Harry R. Potter, Ohio State University
"Attitudes toward Industry in a Relatively Low Income Rural County"

Discussants: Selz C. Mayo, North Carolina State College
Bruce L. Melvin, University of Maryland
William H. Sewell, University of Wisconsin
Lincoln Armstrong, International Research Associates

9:30–11:00 A.M. Section XV

Current Studies in Rural Social Psychology

Chairman: Charles Cleland, University of Tennessee

Bond L. Bible, Ohio State University, and Emory Brown, Pennsylvania State University
"Normative and Functional Roles of County Extension Executive Committee Members in Pennsylvania"

Donald E. Johnson, University of Wisconsin
"Farmers' Attitudes Toward Farm and Home Development in Wisconsin"

Olen Leonard, Inter-American Institute of Agricultural Sciences
"Dominant Values in Latin American Cultures"

Discussants: Verl R. W. Franz, Michigan State University
James H. Copp, Pennsylvania State University
T. Lynn Smith, University of Florida

Monday, August 29, 1960

Joint Meeting with the American Sociological Association
The Statler-Hilton Hotel
NEW YORK CITY

10:00–12:00 A.M. Section XVI

Sociology of Locality Relations

Chairman: William H. Sewell, University of Wisconsin

Maurice D. Van Arsdol, Jr., University of Southern California, Santo F. Camilleri, Stanford University, and Calvin F. Schmid, University of Washington
"An Investigation of the Utility of Urban Typology"

Otis Dudley Duncan and Beverly Duncan, Population Research Center, University of Chicago
"The Measurement of Intra-City and Residential Patterns"

George A. Hillery, Jr., University of Kentucky
"A Comparative Analysis of Ten Villages"

Discussants: Leo F. Schnore, University of Wisconsin
Walter T. Martin, University of Oregon
Sloan R. Wayland, Columbia University

1:30–3:00 P.M. Section XVII

Sociology of Locality Relations

Chairman: A. Lee Coleman, University of Kentucky

C. Horace Hamilton, North Carolina State College
"Educational Selectivity of Net Migration from Rural to Urban Communities"

Archie O. Haller, Michigan State University
"The Occupational Achievement Process of Farm-Reared Youth in Urban-Industrial Society"

William H. Sewell, University of Wisconsin
"Rural-Urban Differences in Ability and Achievement"

Discussants: Elbridge Sibley, Social Science Research Council
James F. Short, University of Chicago
Lee G. Burchinal, Iowa State College

PROGRAM COMMITTEE

Alvin L. Bertrand, Chairman

George M. Beal
Archie O. Haller
Charles Hoffer, ex officio
M. E. John
Harold F. Kaufman
Murray A. Straus

LOCAL ARRANGEMENTS COMMITTEE

H. Bruce Bylund, Chairman

James H. Copp
Charles M. Freeman

Social Change in Rural Society

A Textbook in Rural Sociology

By EVERETT M. ROGERS
OHIO STATE UNIVERSITY

The book opens with an introductory account of our changing rural society, and then offers a general overview of sociological principles which covers basic concepts, such as cultural variability, social value, cultural lag, ethnocentrism, groups, trends in social classes, and social mobility. Selected readings, halftones, maps, and diagrams supplement the text. *490 pages, $6.75*

APPLETON-CENTURY-CROFTS, INC.
35 West 32nd Street, New York, New York

THE RURAL SOCIOLOGICAL SOCIETY

OFFICERS FOR 1959–1960

President, Charles R. Hoffer.....Michigan State University
EAST LANSING, MICHIGAN

Vice-President, Harold F. Kaufman.....Mississippi State University
STATE COLLEGE, MISSISSIPPI

Secretary-Treasurer, James H. Copp.....Pennsylvania State University
UNIVERSITY PARK, PENNSYLVANIA

Other Executive Committee Members:

M. E. John *(President-Elect)*.....Pennsylvania State University
UNIVERSITY PARK, PENNSYLVANIA

Harold Hoffsommer.....University of Maryland
COLLEGE PARK, MARYLAND

Alvin L. Bertrand .....Louisiana State University
BATON ROUGE, LOUISIANA

STANDING COMMITTEES

Committee on Teaching:

Leland B. Tate *(Chairman)*.....Virginia Polytechnic Institute
BLACKSBURG, VIRGINIA

Committee on Research:

Alvin L. Bertrand *(Chairman)*.....Louisiana State University
BATON ROUGE, LOUISIANA

Committee on Extension:

George M. Beal *(Chairman)*.....Iowa State University
AMES, IOWA

Official Representative in the American Sociological Association:

Irwin T. Sanders .....Boston University
BOSTON, MASSACHUSETTS

The object of the Rural Sociological Society is to promote the development of rural sociology through research, teaching, and extension work.

Membership is open to any person professionally employed in the field of rural sociology or who is interested in the objects of the Society, subject to the approval of the Executive Committee and the payment of annual membership fee of $7.50. The student membership and emeritus fee is $4.00 annually. Each member receives RURAL SOCIOLOGY, the official journal of the Society, at no additional expense. Send membership fees to:

THE RURAL SOCIOLOGICAL SOCIETY
James H. Copp, *Secretary-Treasurer*
206 Weaver
Pennsylvania State University
University Park, Pennsylvania